HANMORE LAKE MANAGEMENT STUDY
BACKGROUND REPORT
January, 1986

Prepared for: County of Smoky Lake
Prepared by: Hanmore Lake Plan Committee
(with assistance from Alberta Municipal Affairs)
Printed by: Alberta Municipal Affairs

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INTRODUCTION

1. INTRODUCTION

1.1 Origin & Purpose of Study

Hanmore Lake is a moderately developed recreational lake, located approximately 16 km (10 miles) north of the Town of Smoky Lake and 100 km (62 miles) northeast of the City of Edmonton. The attractive natural qualities and serene setting of the lake have made it a popular spot among local residents for many years.

In 1983, the issue of unauthorized cottage development along certain portions of the lake's south shore was brought to the forefront. With private, municipal and crown lands involved in this situation, it was determined by both municipal and provincial government agencies that immediate attention be given to the problem. This, together with provincial interests in disposing of portions of crown land for cottage development, raised a number of questions regarding the future use of the lake and its shoreland area.

In the absence of management goals and development guidelines for the lake, the Council of the County of Smoky Lake recognized the need to undertake more detailed planning to aid in the resolution of these issues. In response to this need, the County of Smoky Lake in cooperation with the Planning Branch of Alberta Municipal Affairs, initiated the preparation of a lake management plan for Hanmore Lake.

Although the lake management plan was initiated in response to specific issues, it will provide a framework for the overall management of the lake's resources.

1.2 The Study Area

The study area is 21 square kilometres (8 square miles) in size and is comprised of Hanmore Lake proper and the adjacent shorelands, extending approximately 1.5 kilometres (1 mile) back from the waters edge. It is within this area that developments impacting on the lake are likely to occur.

1.3 The Planning Process

The development of a management plan is a process which involves a number of steps. As an initial step in the planning process, The County of Smoky Lake Council established a Lake Plan Committee to work with Alberta Municipal Affairs staff throughout the preparation of the management plan.

The collection of data was then undertaken. This involved gathering information pertaining to users of the lake, the lake's resources, the present development and use of the lake, and a description of the activities that are taking place within the study area. From this information it was then possible to identify conflicts and issues, and to determine the development constraints and development potential of the lake. This Background Report represents the completion of the first step in the planning process.

The Background Report will be used in developing and evaluating alternative management strategies for Hanmore Lake. A preferred alternative will then be selected upon which a land use plan for the lake will be developed.

BIOPHYSICAL PROFILE

2. BIOPHYSICAL PROFILE

2.1 Regional Setting

Hanmore Lake is situated within the east-central part of the province, in an area known as the Eastern Alberta Plains (see Map 1). It is located approximately 100 km (62 miles) northeast of the City of Edmonton and lies within the administrative boundaries of the County of Smoky Lake.

The lake is nestled in the northeast corner of the County: an area which is largely unsettled and under public ownership. Hanmore Lake serves as an important local recreation area. It is one of eight lakes within the County which have been identified as having the capability to support intensive recreational activities such as camping, swimming, or cottage development.[1].

The lake supports a provincial and a municipal campground. A moderate level of seasonal cottage development is concentrated along the southeast shore. Access to Hanmore Lake is by gravelled municipal roads, with Secondary Road 855 located one mile to the east.

2.2 Lake Characteristics

Hanmore Lake is elongated in shape with a peninsula jutting out from the east end. This peninsula creates two clearly defined bay areas. The southeast bay, which is associated with the County of Smoky Lake campground, is heavily used by a variety of recreationists. The northeast bay area is characterized by very shallow water with both emergent and submergent vegetation.

The lake has a surface area of 267 hectares (660 acres) and a shoreline length of approximately 11 kilometres (7 miles). The maximum depth of the lake is 23 metres (75 feet) (see Map 2). While both the eastern and western ends of the lake are quite shallow, a prominent shallow area also exists at the halfway point along the south shore.

A zone of aquatic vegetation characterizes much of the shoreline. This vegetation is least dense along the south shore and most dense in the northeast bay.

2.3 Water Quality

Hanmore Lake is considered to be a moderately eutrophic or moderately fertile body of water. This moderate level of fertility is brought about by the rich nutrient levels in the lake, which allow emergent and submergent vegetation as well as algae to grow.

Nutrients are present naturally in the material on which the lake lies. Over time, however, soil erosion, sewage effluent, use of fertilizers and in particular, the runoff from livestock wastes and agricultural operations can lead to increased fertility of the lake. When this occurs, more plant growth will result, water clarity will be reduced and fish levels will decrease. Hanmore Lake also has a relatively high water retention time (i.e. low rates of water inflow and outflow combined with a deep basin) which makes it susceptible to problems caused by increased nutrient enrichment.

At present, water quality is not a problem for Hanmore Lake. Activities such as boating, waterskiing, fishing and swimming continue to be enjoyed. The threat of increased nutrient loading does exist, however. Significant cattle grazing within the watershed area, clearing of land for agricultural use and shoreline disturbance are some activities which may speed up eutrophication of the lake. Special care must be taken to ensure that future land use activities at the lake do not accelerate nutrient enrichment.

---

1. County of Smoky Lake #13 Lake Planning Framework, Alberta Municipal Affairs, March 1984.

2.4 Drainage Area

The Hanmore Lake watershed drains an area of approximately 87 square kilometres (34 square miles) (see Map 3). Groundwater and surface runoff drain into the lake from the north and east. Two small tributaries provide drainage from the north: one drains into the west end of the lake and the other into the northeast bay. The lake is drained by a channel which flows south into White Earth Creek. The majority of the watershed area is undeveloped with a few agricultural clearings.

2.5 Topography & Physiography

The contours on Map 4 depict the general topography of the Hanmore Lake area. The terrain in the study area can best be described as gently undulating to gently rolling. The overall variation in elevation is approximately 15 metres (50 feet).

Much of the southern shoreline consists of gentle slopes while the northern shoreline is more rolling in nature. The steepest slopes are found in the eastern end of the study area.

The lake itself lies in an area which is characterized by numerous small lakes, marshy depressions, and poor drainage. This is particularly evident in the areas lying to the north and east of the lake. Lands south of the lake are generally more level and better drained with fewer marshy areas.

2.6 Wildlife

The Hanmore Lake study area contains a varied but moderate level of wildlife. The more productive habitat areas are in the uplands to the east, north, and west of the lake, which are still largely forested. Uplands south of the lake have a lower capability for wildlife because of the influence of farm development.

The entire study area provides a good habitat for moose and mule deer, with a relatively high white-tailed deer population. The regional habitat biologist notes that aquatic wildlife values on the lake are moderated by the limited areas of valuable marsh-type habitat. With the exception of the extreme ends of the lake (see Map 5), the remaining shoreline has no exceptional habitat features.

A variety of smaller wildlife species also inhabit the study area with beaver activity being a noteworthy feature. Four active beaver lodges were present during the summer of 1984. A general wildlife survey which was conducted by the regional wildlife biologist during July of 1984 did not indicate the presence of rare or sensitive species.

2.7 Fisheries

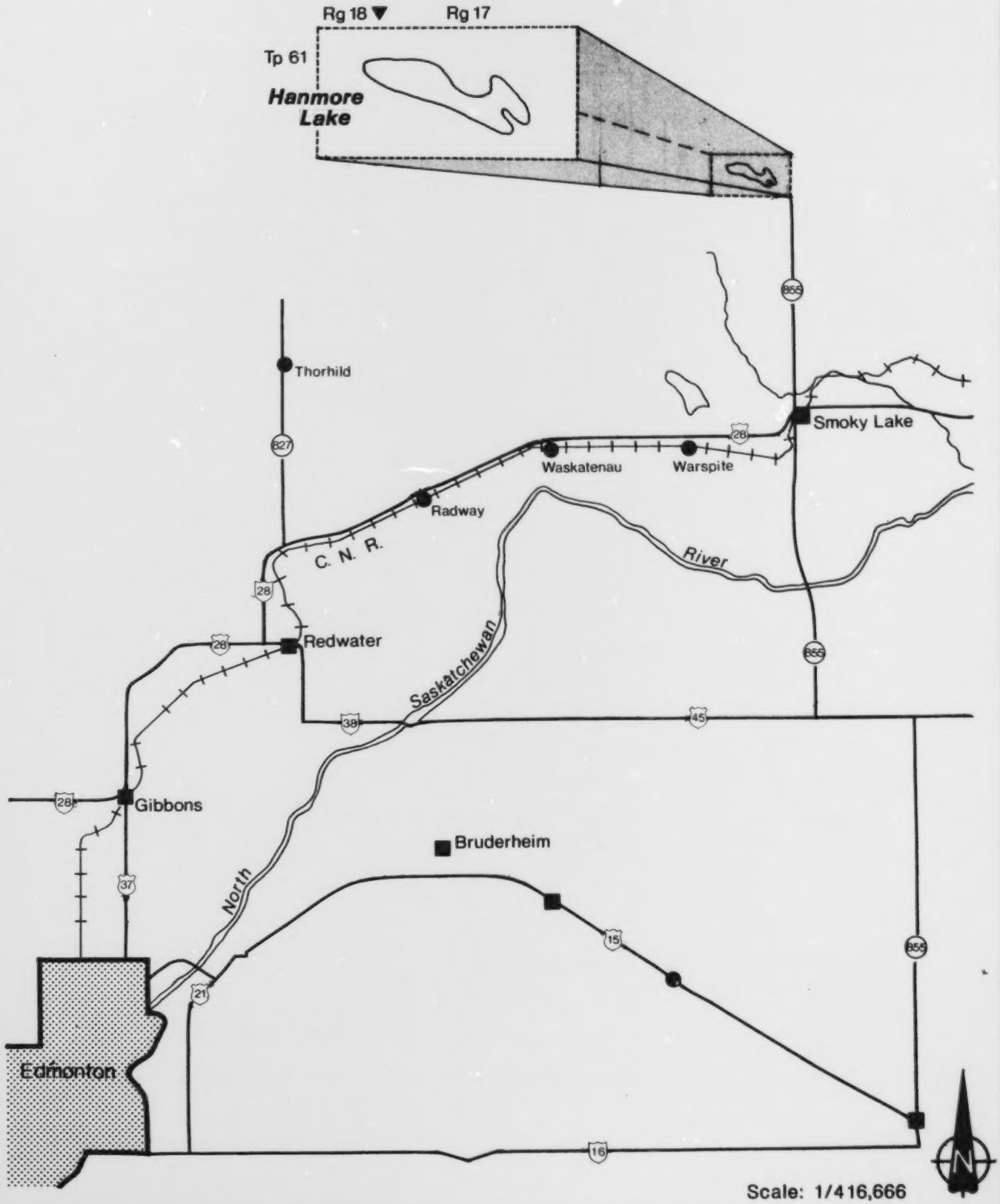
Information received from the regional habitat biologist indicates that Hanmore Lake contains a number of warm and cool water fish species. These include northern pike, yellow perch, lake whitefish, burbots, and suckers. The lake was commercially fished during various years from the early to late 1950's, and again in 1979. The lake has since been removed from the commercial fish list.

Shallow, vegetated areas are important northern pike habitat, whereas lake whitefish are more dependent on deeper waters for spawning and nursery areas. Map 5 indicates these important fish habitat areas.

Yellow perch are most strongly associated with sloping shorelines which exhibit vegetated areas adjacent to deep water. Most of the north and south shorelines fall into this category.

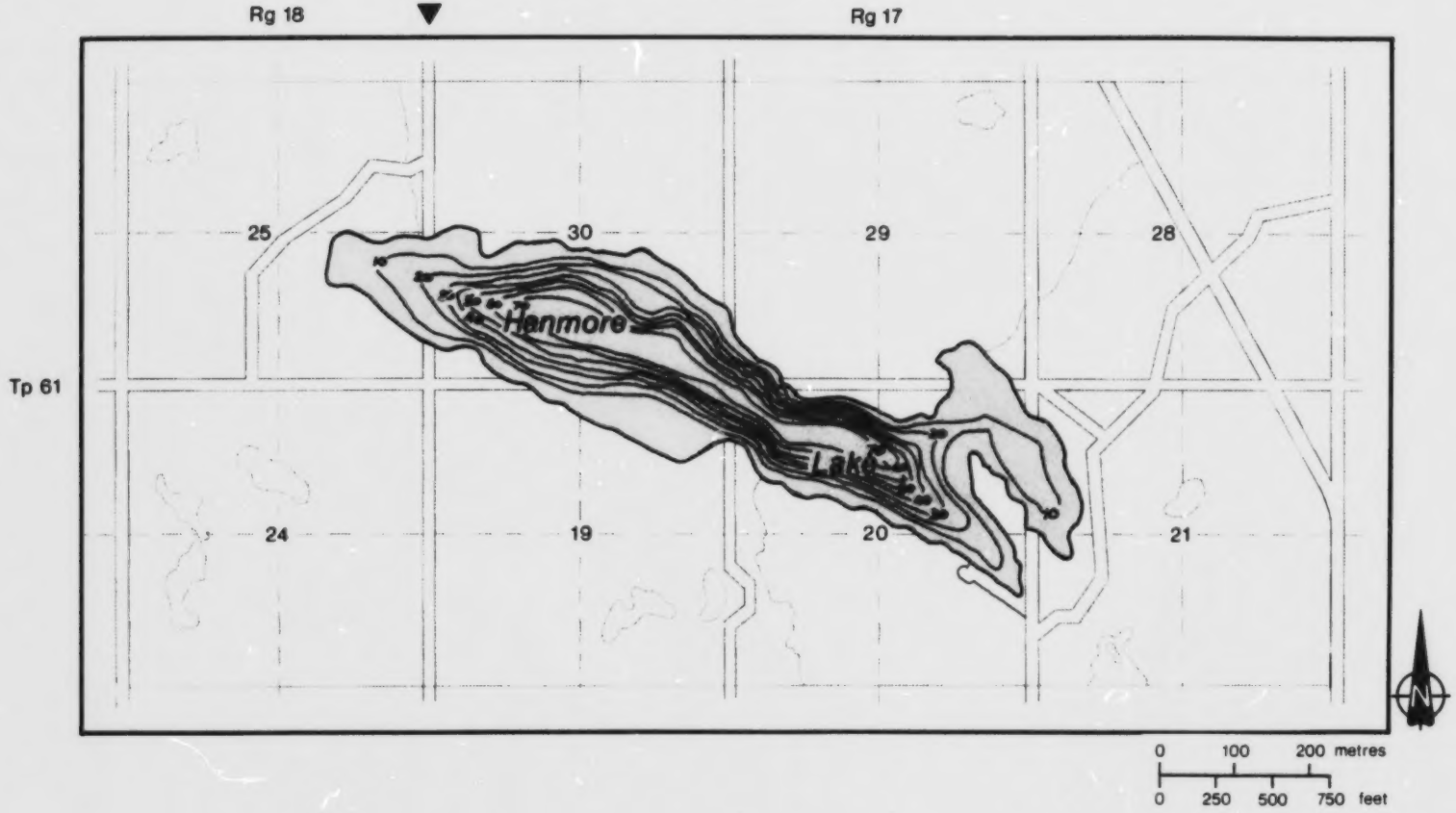
REGIONAL SETTING

Map 1



Map 2

HYDROGRAPHIC SURVEY

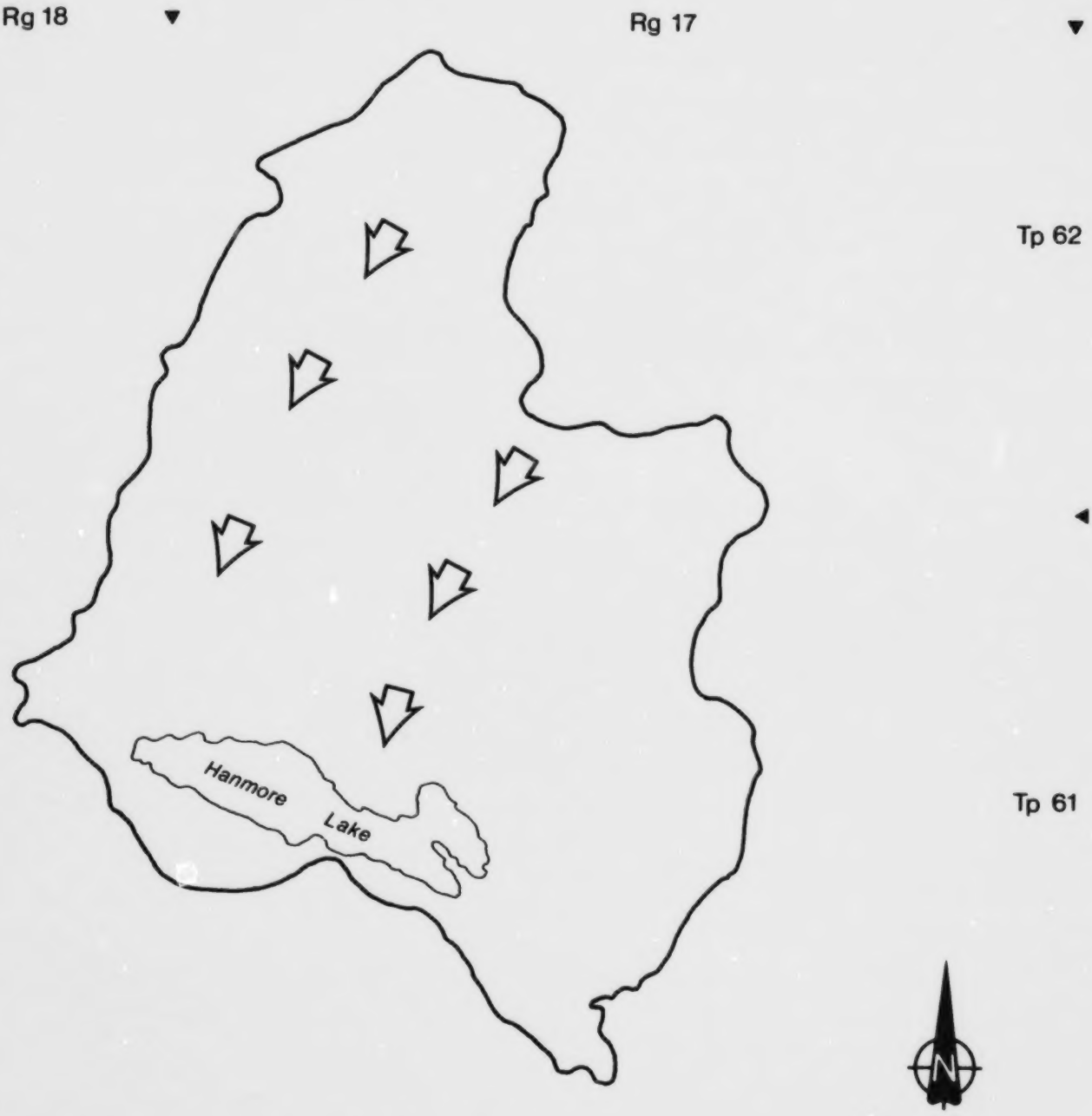


Depth Contours (10 ft (3m) intervals)

Source: Alberta Environment

Map 3

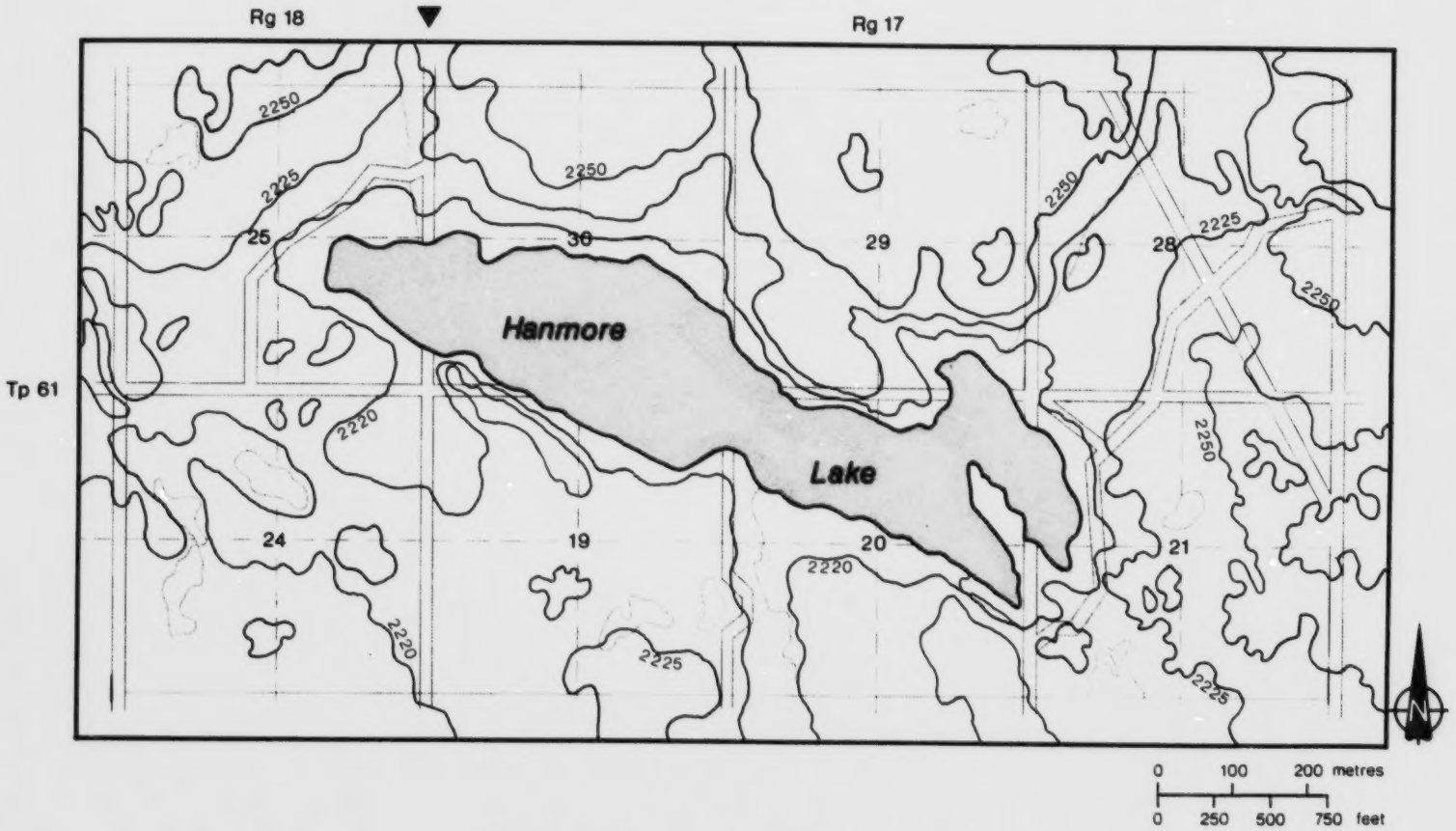
WATERSHED



Source: Hydrology Branch, Alberta Environment

TOPOGRAPHY

Map 4

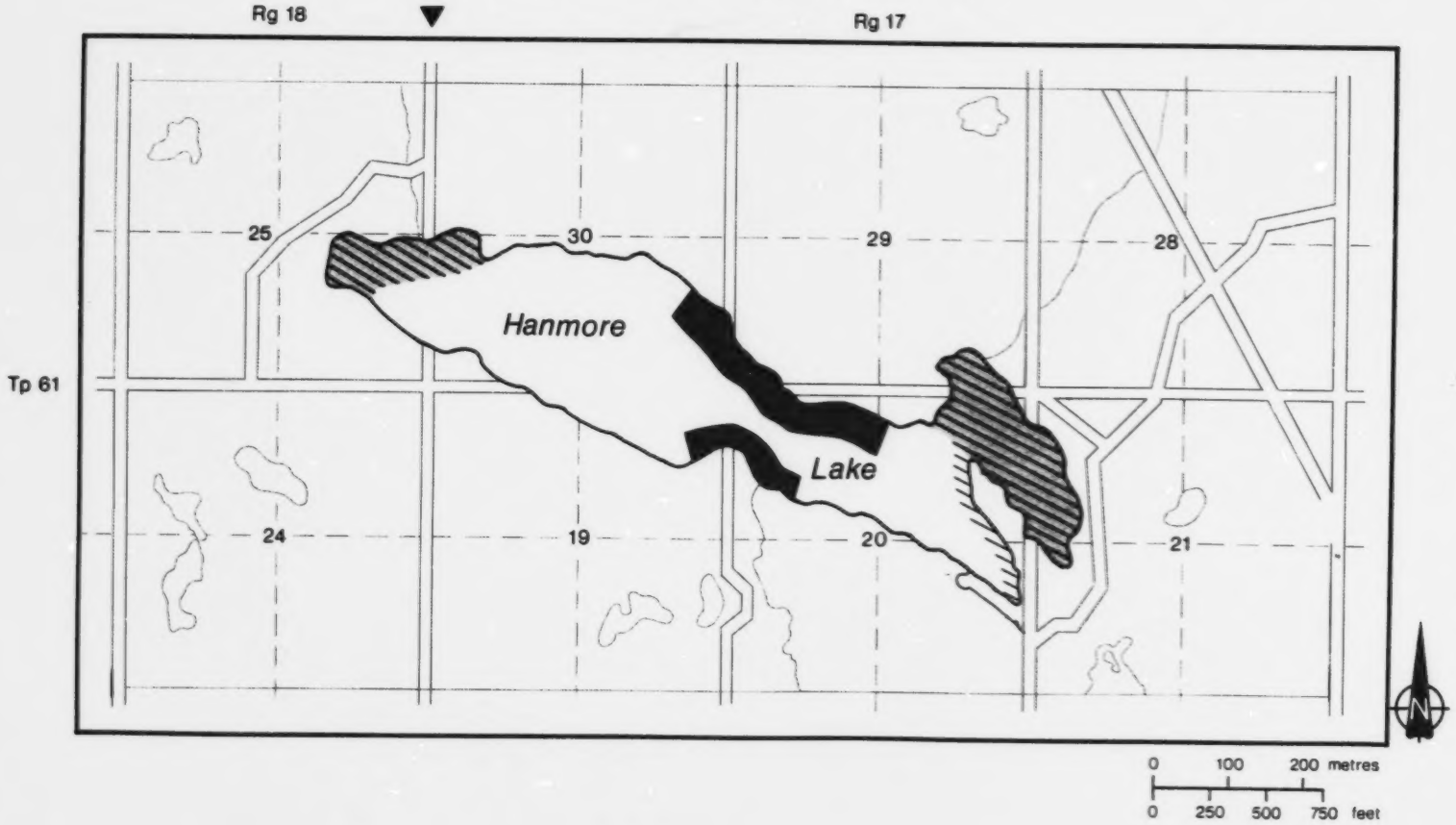


Elevation Contours(8m (25 ft) interval)

Source: National Topographic System, Department of Energy, Mines and Resources Mines

IMPORTANT AQUATIC HABITAT AREAS

Map 5



Aquatic Based Wildlife

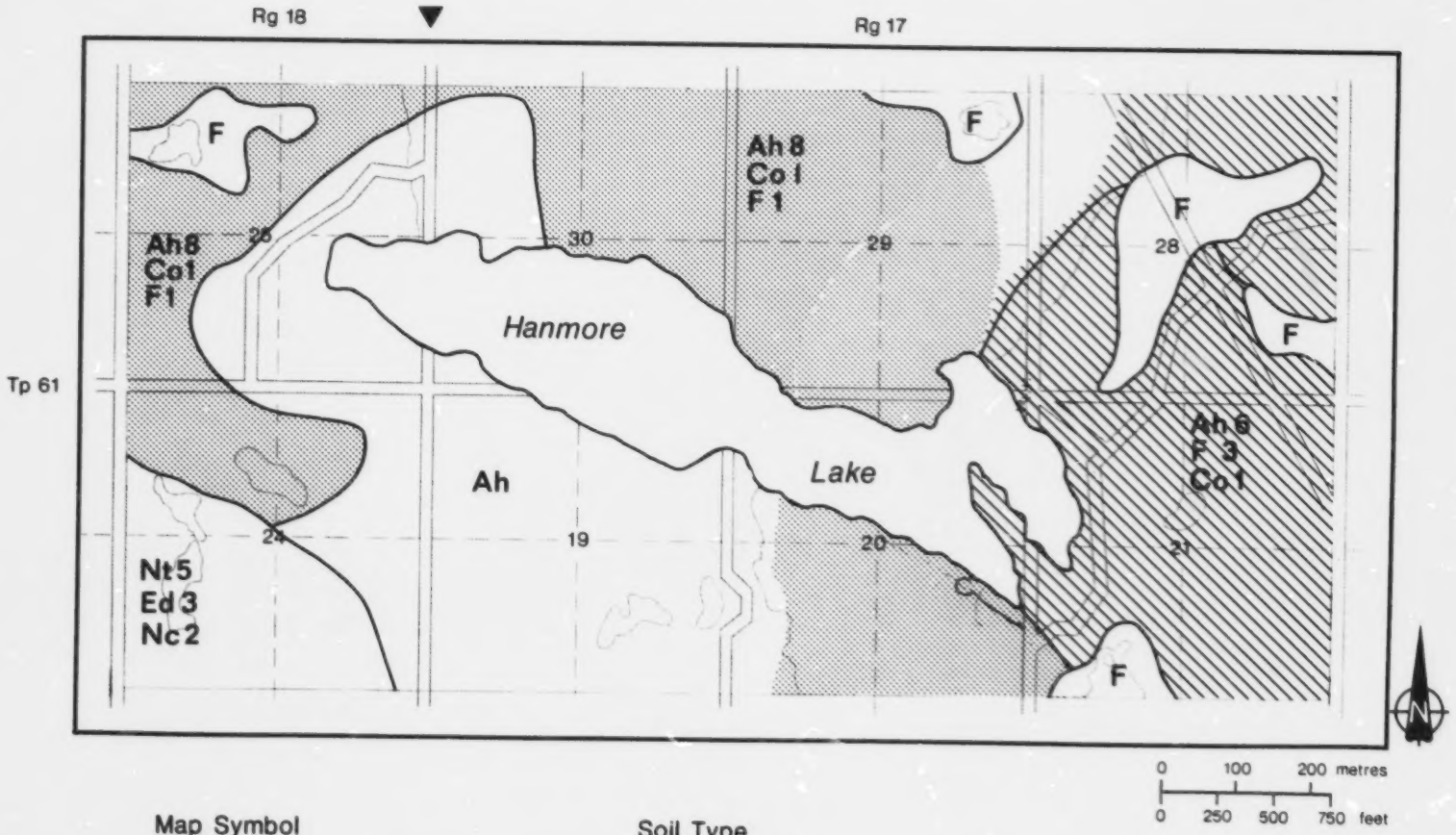
Northern Pike

Lake Whitefish

Source: Regional Habitat Biologist,
Alberta Energy and Natural Resources

SOILS

Map 6



Map Symbol
Ah
Co
Ed
F
Nc
Nt

Soil Type
Athabasca
Codesa Complex
Edwand
Fibrisol
Nicot Complex
Nestow

0 - 5% slope

5 - 9% slope

9 - 15% slope

N.B.: Numbers refer to relative proportion of soil type in each land unit

Soil Survey of the Tawatinaw Map Sheet, Alberta Soil Survey

2.8 Vegetation

Hanmore Lake lies within the Mixedwood Section of the Boreal Forest region of the province. This area is dominated by aspen poplar with lesser amounts of white spruce, paper birch, and balsam poplar. Most of the study area, including the shoreline, is still under tree cover. The exceptions to this are generally south of the lake where some land has been cleared for agricultural and resort cottage use.

The poorer drained areas are characterized by black spruce, willows, and scrub brush. The zone of aquatic vegetation which typifies much of the shoreline is characterized by rushes, lilies, and cattails.

2.9 Soils

Map 6, shows the distribution of soils found in the study area. The loams and clay loams of the Athabasca soil series are dominant. To the north, west, and east of the lake, the Athabasca soil is found in association with varying amounts of organic soils (Fibrisol) and soil which has developed on sandy material (Codesa Complex).

The southeast corner of the study area is made of rapidly drained, sandy soils of the Nestow, Edward, and Nicot Complex series.

LAND AND LAKE USE

3. LAND AND LAKE USE

3.1 Land Tenure

Approximately 60% of the land in the study area is public land which is administered and managed by Alberta Energy & Natural Resources (see Map 7). Use of this public land is granted to individuals through agreements called public land dispositions. With the exception of one quarter section, all public land in the study area is being utilized for grazing, recreation or cottage uses. One mineral surface lease and several pipeline agreements also exist. Many quarter sections are also subject to Protective Notations and Holding Reservations.

The following types of public land dispositions are found in the study area:

Grazing Lease – issued for periods of five or ten years on land not suitable for cultivation.
Grazing Permit – issued on an annual basis, frequently on lands under reservation for another purpose or on lands not available for long term dispositions.
Miscellaneous Lease – issued for a maximum term of 25 years (may be renewed) for uses such as residences, recreational cottages, etc..
Miscellaneous Permit – issued generally for a temporary use.
Mineral Surface Lease – issued for terms from 10 to 25 years for the removal of sand, gravel, silica sand, clay, marl, topsoil, or peat moss.
Pipeline Agreement – issued for pipeline construction and transportation of mineral products.
Recreational Lease – issued to municipalities and societies for a term of 21 years.
Holding Reservation – used to indicate that a specific future use has been identified for the land.
Protective Notation – imposes a restriction on land use usually due to specific natural feature of the land.

The two recreational leases correspond to the two campground sites on the lake: the most westerly being operated by the province while the easterly one is operated by the County of Smoky Lake. The northeast quarter of Section 20 contains three miscellaneous permits which have been issued for cottage use. The miscellaneous leases in the northeast quarter of Section 19 have been issued for a cottage and for operation of the Pioneer Bible Camp.

Protective Notations have been registered by Alberta Energy and Natural Resources against most of the crown quarters in the northeast study area. These notations have been registered because of general topographic constraints which may limit the types of activities occurring on these quarters. The Holding Reservation registered on the northwest quarter of Section 20 has been used to identify it as a site which has potential for cottage subdivision. The reservation is a means of protecting this site from uses which may hinder the future subdivision of the land.

There are twelve quarter sections of land within the study area which are privately owned. Only one of these quarters (the southeast quarter of Section 20), has a significant area of lakeshore frontage. All of this lakeshore frontage has been developed for cottage use. The County of Smoky Lake has title to an 11.3ha (28 acres) parcel which is situated adjacent to the County campground.

3.2 Land Use

Most of the study area is undeveloped and under tree and/or brush cover (see Map 8). The primary activity here is cattle grazing. Due to the physical limitations of the study area, only a few parcels have been cleared for agricultural use. According to information provided by the local District Agriculturist, approximately 8 farm operations utilize the watershed of Hanmore Lake. Approximately 500 cow-calf units would have access to the watershed each year from about May 15 to October 15. It is estimated that a large percentage of these cows stay within the watershed for the full 5 month period. The average stocking rate would be 15-20 per quarter of land for 5 months of grazing. Given the average stocking rate per quarter, it is estimated that approximately 200 cattle graze along the lakeshore of Hanmore Lake for some period of time each year. The extensive removal of groundcover vegetation and underbrush along the north shoreline of the lake is indicative of the negative impacts associated with cattle grazing along the shoreline of Hanmore Lake.

Recreational development has been the most prominent land use at the lake. The east end of the lake is dominated by four distinct cottaging areas. Within each of these four areas, there exist cases of unauthorized development and conflict arising from more than one cottage being located per parcel of land:

1. NORTHEAST QUARTER OF SECTION 20 (CROWN LAND)
   A total of eight cottages are located along this portion of the lakeshore. Only three have been issued permits from Alberta Energy and Natural Resources, the remaining five are unauthorized developments.

2. PT. OF THE SOUTHEAST QUARTER OF SECTION 20 (CROWN LAND)
   A total of seven cottages are located on this small parcel of land adjacent and west of the Hanmore Holdings property. All cottages are unauthorized developments.

3. LOT 1, BLOCK 1, PLAN 5282 RS (SE quarter Section 20)
   This 1.3 ha (3.1 acre) privately owned parcel represents the only true cottage subdivision to have taken place on Hanmore Lake. Fifteen cottages are located on this one parcel, three of which are actually camper/trailer units.

4. SOUTHEAST QUARTER OF SECTION 20 (outside of Plan 5282 RS)
   This parcel of patented land contains six cottages, all of which are found adjacent to the lake. Two of the units are actually camper/trailers.

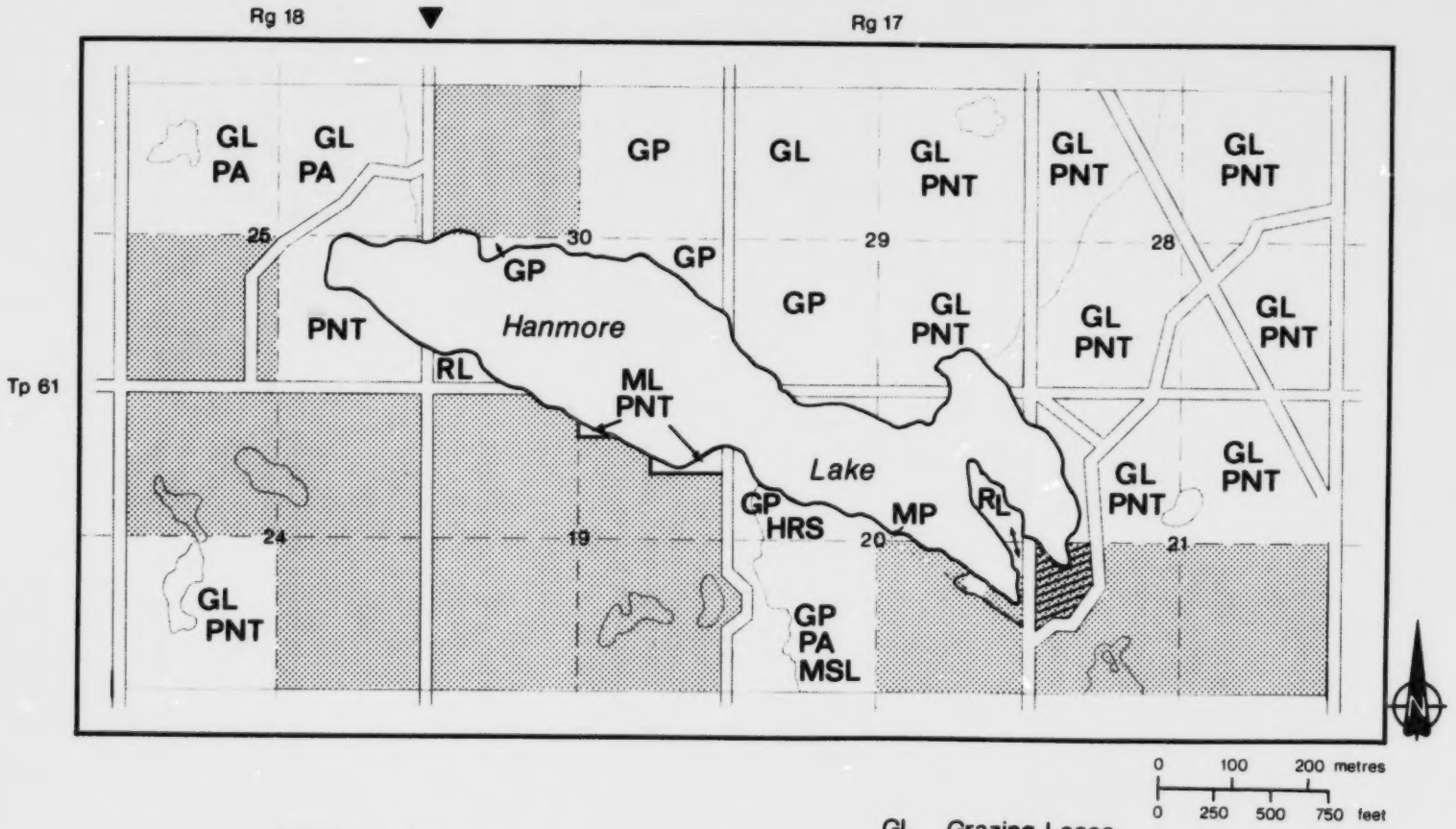
5. PART OF THE SOUTHWEST QUARTER OF SECTION 21
   This 11.3 ha (28 acre) parcel which is owned by the County of Smoky Lake contains eight privately owned cottages which have been placed on the site without authorization.

There are two public campground sites on the lake. The east end campground is operated by the County of Smoky Lake. This site is comprised of a day use area, beach, swimming area, boat launch and boat dock, camp kitchen, 18 designated camping stalls, and washrooms/change rooms. The west end campsite is operated by the province through Alberta Transportation. Facilities here include a boat launch and boat dock, picnic tables, camp kitchen, and 22 camping stalls. A portion of the crown quarter immediately west of the provincial campsite is also used by the public as a camping/day use area. However, this area is not officially designated nor maintained for camping use.

The only other noteable development on the lake is the Pioneer Bible Camp, which was established on the lake's south shore some 35 years ago. Activities at the camp include horseback riding, boating, fishing, hiking, archery, and bible instruction. Facilities at the camp include a main recreation complex, 18 cabins, staff accommodation (two cottages, one trailer), and a washroom/laundry building. The camp is active from May to September.

LAND TENURE

Map 7



Crown

Patented

Patented - County of Smoky Lake

GL Grazing Lease
GP Grazing Permit
ML Miscellaneous Lease
MP Miscellaneous Permit
MSL Mineral Surface Lease
RL Recreational Lease
PA Pipeline Agreement
HRS Holding Reservation
PNT Protective Notation

Source: Public Lands Division,
Alberta Energy and Natural Resources

3.3 Lake User Survey

This section of the Background Report looks at how the lake and its shorelands are used and viewed by the cottage owners and landowners within the study area, and by the public at large. This information was obtained through a questionnaire which was sent out by the County of Smoky Lake during the months of September and October, 1984. The questionnaire was mailed to each of the cottage owners/landowners within the study area and distributed to the public at large, mainly through the local newspaper.

The questionnaire was mailed to the 51 property owners within the study area, and returned by 31 respondents. This represents a 61% rate of return.

A total of 2900 questionnaires were distributed to the public. Of these, 2800 were distributed through the local newspaper. Sixty-two were returned, representing a response rate of 2%. The remaining 100 questionnaires were distributed to lake users during the Labour Day weekend by members of the Lake Plan Committee. Thirteen questionnaires were returned, representing a 13% response rate.

The summary which follows is intended to provide a general evaluation of lake use and user group perceptions and for that reason no attempt has been made to distinguish between property owner responses and public user responses.*

3.3.1 Cottage Ownership Profile

The majority (56%) of cottage owners on Hanmore Lake are local area residents. A significant number (37%) are from the Edmonton area. More specifically, 26% of the cottage owners are from Edmonton proper, 7% live in St. Alberta, 2% reside in Sherwood Park, and 2% reside in Fort Saskatchewan. The remaining 7% reside in Vegreville and Calgary.

All cottage owners on Hanmore Lake use their cottages on a seasonal basis and on average spend no less than two weeks on the property annually. Approximately 50% of the cottage owners who responded to the questionnaire indicated that they spend between one and two months at the cottage over the course of one year. A large number, 38%, use their cottages more frequently, spending over 60 days per year at the lake.

3.3.2 Travel Distance

The questionnaires which were distributed to the public at large reveal the lake to have a strong local attraction. Almost 60% of the respondents live within 20 miles (32 km) of the lake. By contrast, only 19% travel over 60 miles (97 km) to visit the lake.

3.3.3 Lake Preference

Both cottagers and public lake users were asked to give reasons why they chose Hanmore Lake as a place to recreate. By ranking the responses it was possible to identify those features which make Hanmore Lake attractive as a recreation spot. Being "close to home" was the most attractive feature (69%). The second most attractive feature was the "natural beauty of the lake" (59%). Other important factors, in order of priority were: "clean lake water" (38%), "friend/relatives nearby" (33%), "good boating" (32%).

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* A detailed review of the survey results is contained in the Appendix of the Background Report.

3.3.4 Frequency and Intensity of Recreation Use

a) Cottage Use

An estimate of cottage use intensitites at Hanmore Lake between the months of May and September, 1984 was obtained from the results of the calendar question. Approximately 98% of the respondents completed the calendar.

As was expected, the months of July and August experienced the highest intensities of mid-week and weekend usage. The period of most intensive cottage use occurred during the Heritage Day long weekend in early August, when a peak of 8.33 persons per cottage was reached.

Regular weekend use during the summer months was consistently higher than the average midweek use. Average weekend usage rates ranged from a high of 3.48 persons per cottage in mid June to a low of .22 persons per cottage at the end of September.

b) Visitor Trips

The questionnaires which were distributed to the public at large asked people to indicate the number of times they had visited Hanmore Lake in 1984. The largest group, 31%, indicated that they had visited the lake between 1 and 3 times. Interestingly, the second largest group, 27%, had visited the lake over 10 times in 1984.

Most of the respondents (52%) indicated that their visit to the lake was just for the day. This is not so surprising, since almost 60% of the public lake users indicated they lived within 20 miles of the lake.

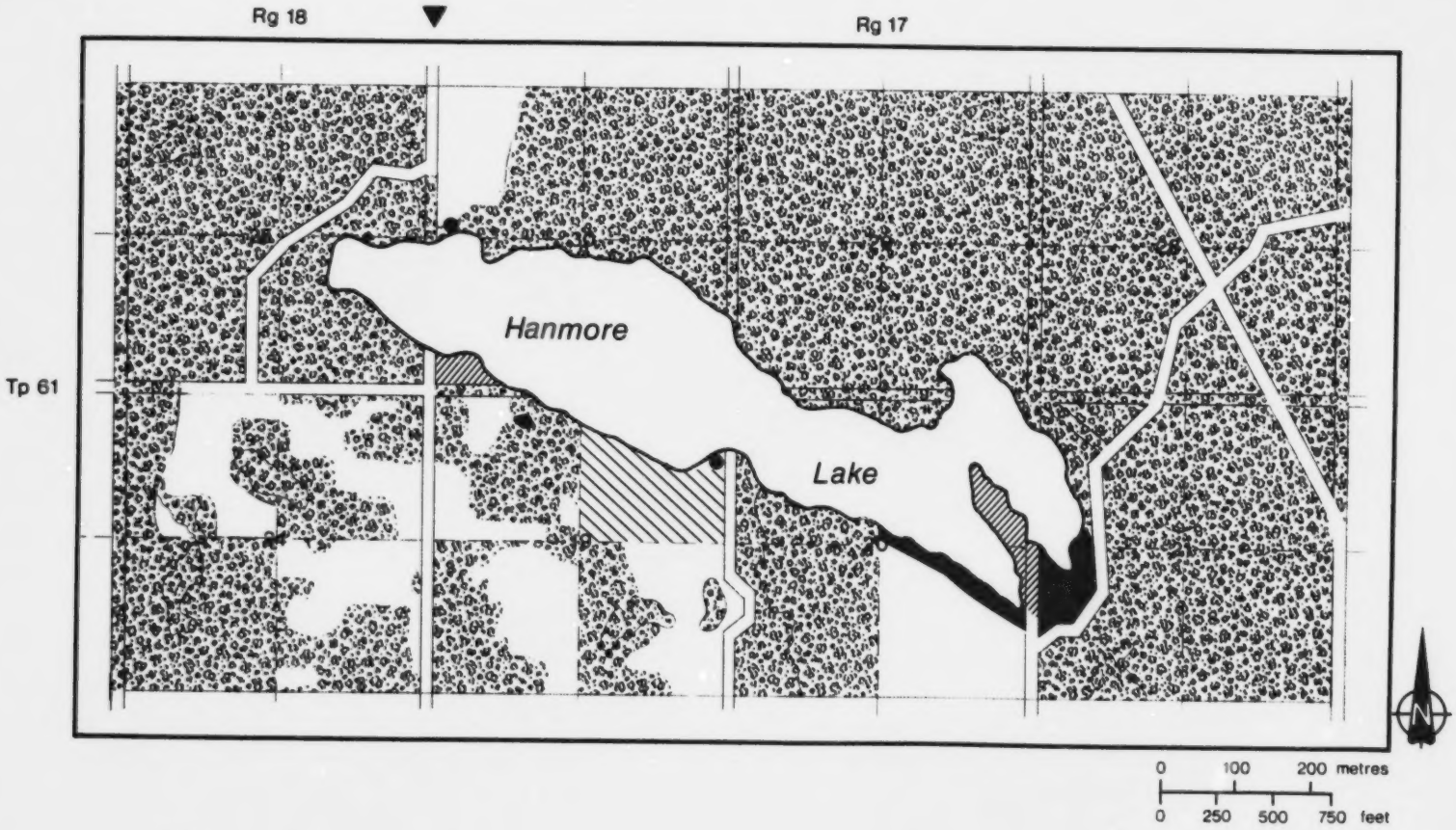
c) Perception of Lake Use Levels

The majority of all respondents to the questionnaire, (approximately 60%) feel that both the lake surface and the public beach areas are **adequately used** on an average summer weekend. Twenty-four percent perceive the lake surface to be **overused** during this same period, while only 13% feel the public beach area is **overused**.

However, on peak, long holiday weekends, the majority of respondents feel the lake surface is **overused**. During these periods of increased recreational use, 50% view the lake as **overused** on long holiday weekends while (40%) view it as **adequately used**

PRESENT LAND USE

Map 8



Source: Planning Branch, Alberta Municipal Affairs
(air photos and field inspection)

3.3.5 Recreational Activities

a) Preferred Activities

The respondents were asked to rank the recreational activities they participated in at the lake during the summer and winter, in order to identify those activities enjoyed most. Forty-five percent of the respondents said they did not engage in recreational activities during the winter.

The ranking of summer activities indicates that general relaxation is the favorite recreational activity for 69% of the respondents. Other highly rated summer activities include, in order of priority; fishing (54%), swimming (51%), camping (44%), and waterskiing (40%).

A ranking of the preferred winter activities at Hanmore Lake indicates that ice fishing is by far the favoured winter activity (73%). Other recreational activities enjoyed during the winter are, in order of priority: general relaxation (39%), cross-country skiing (32%), and snow mobiling (32%).

b) Boating Activities

Most respondents (75%) indicated that they use some type of boat during their stay at the lake. Motorboats are the most popular form of boating craft used at the lake. Almost 60% of the respondents own at least one motorboat and almost 8% own two. About half of all motorboats used at the lake are over 90 horsepower.

Canoes are the second most popular form of boating at the lake. Rowboats and sailboats are less popular forms of boating.

3.3.6 User Perceptions

a) Environmental Quality

Respondents were asked whether they perceived any deficiencies in the physical condition of Hanmore Lake for recreational use. Forty-five percent indicated no and 46% indicated yes. The two major deficiencies noted were shoreline weed growth and algae growth.

The quality of the lake water did not pose a concern to the majority of the respondents. Only 9% rated the water quality as poor. However, a higher number of respondents (21%) feel the lake water quality is getting worse over time.

b) Lake Boating

An overwhelming number of respondents feel that boating activities at the lake should be regulated (77%). The majority of respondents indicated a need for speed restrictions, while 20% supported a restriction on boating type.

c) Services and Facilities

While boat launch facilities were found to be sufficient by the majority of the respondents, over half indicated a need for more beaches and day use areas at the lake.

Overall, lake users found the recreation facilities to be less than adequate. Most frequently mentioned were the small size of the recreation areas and poor beach area/swimming area.

d) User Conflicts

Respondents were asked whether they noted any land use or lake use conflicts occurring at Hanmore Lake. Less than 20% of the respondents indicated that both land and lake use conflicts exist.

Trespassing and squatters were the most frequently mentioned land use conflicts at the lake. Additional development and use of the lake was also seen as a threat to the lake environment.

Many comments were made relating to the need for boating regulations. Concern over boat/swimmer conflicts in the County beach area were expressed numerous times.

A need for supervision/patrolling of the lake was noted by 13% of the respondents. Numerous suggestions were made as to how the services and facilities at the lake could be improved, these included upgrading of the camping facilities, additional day use/picnic areas, and allowing camping in the area to the west of the Alberta Transporation campsite.

e) Future Development

The majority of respondents do not feel that additional cottage development is desirable for Hanmore Lake.

Commercial services are not seen as a suitable use by 72% of the respondents. Those opposed feel that services are readily available in the nearby Town of Smoky Lake.

f) General Comments

Respondents were given an opportunity to make additional comments at the end of the questionnaire. These comments revealed an overall concern about the quality of the lake environment and a desire to preserve the natural beauty of the lake. Additional development and use of the lake was seen as a threat to the lake environment.

Many comments were made relating to the need for boating regulations. Concern over boat/swimmer conflicts in the County beach area were expressed numerous times.

A need for supervision/patrolling of the lake was noted by 13% of the respondents. Numerous suggestions were made as to how the services and facilities at the lake could be improved. These included upgrading of the camping facilities, additional day use/picnic areas, and allowing camping in the area to the west of the Alberta Transportation campsite.

RESOURCE CAPABILITY

4. RESOURCE CAPABILITY

One way of helping to determine the best development choices for a lake environment is to evaluate the capabilities of the lake's resources to accommodate various types and intensities of uses. Here, the Canada Land Inventory (C.L.I.) has been used to rank the study area's capability for various resource uses.[2].

4.1 Agriculture

Two methods have been used to evaluate the agricultural capability within the Hanmore Lake study area: the Canada Land Inventory and the Farmland Assessment Rating.

4.1.1 Canada Land Inventory (C.L.I.)

The Canada Land Inventory classifies the land within the study area as marginal for the production of field crops. The highest capability land is rated as Class 4 and is generally confined to the area south of the lake. Class 4 soils are considered capable of sustained use for cultivated field crops but have a low to fair productivity. High productivity may be achieved on Class 4 soils with specially adapted crops.

The balance of the study area is made up of Class 5 and 6 land. This land has very severe limitations and is only capable of producing perennial forage crops. Organic soils are not classified by capability.

4.1.2 Farmland Assessment Rating

The farmland assessment rating provides a means of evaluating the agricultural productivity of cultivated land in terms of its arable crop production. The land is assessed on the basis of topography, stoniness, and various soil factors, with the final rating expressed as a percentage of productivity relative to the best farmland in Alberta. The best farmland is rated at 100%.

Most of the land in the study area is not under cultivation and therefore, has not been given a farmland assessment rating. The lands which have been rated are generally south of the lake and range from 36% to 43%.

4.2 Forestry

Most of the planning area is still under natural vegetation. The farmland assessment sheets classify these areas as bush pasture and they are comprised mainly of poplar with some willow and black spruce.

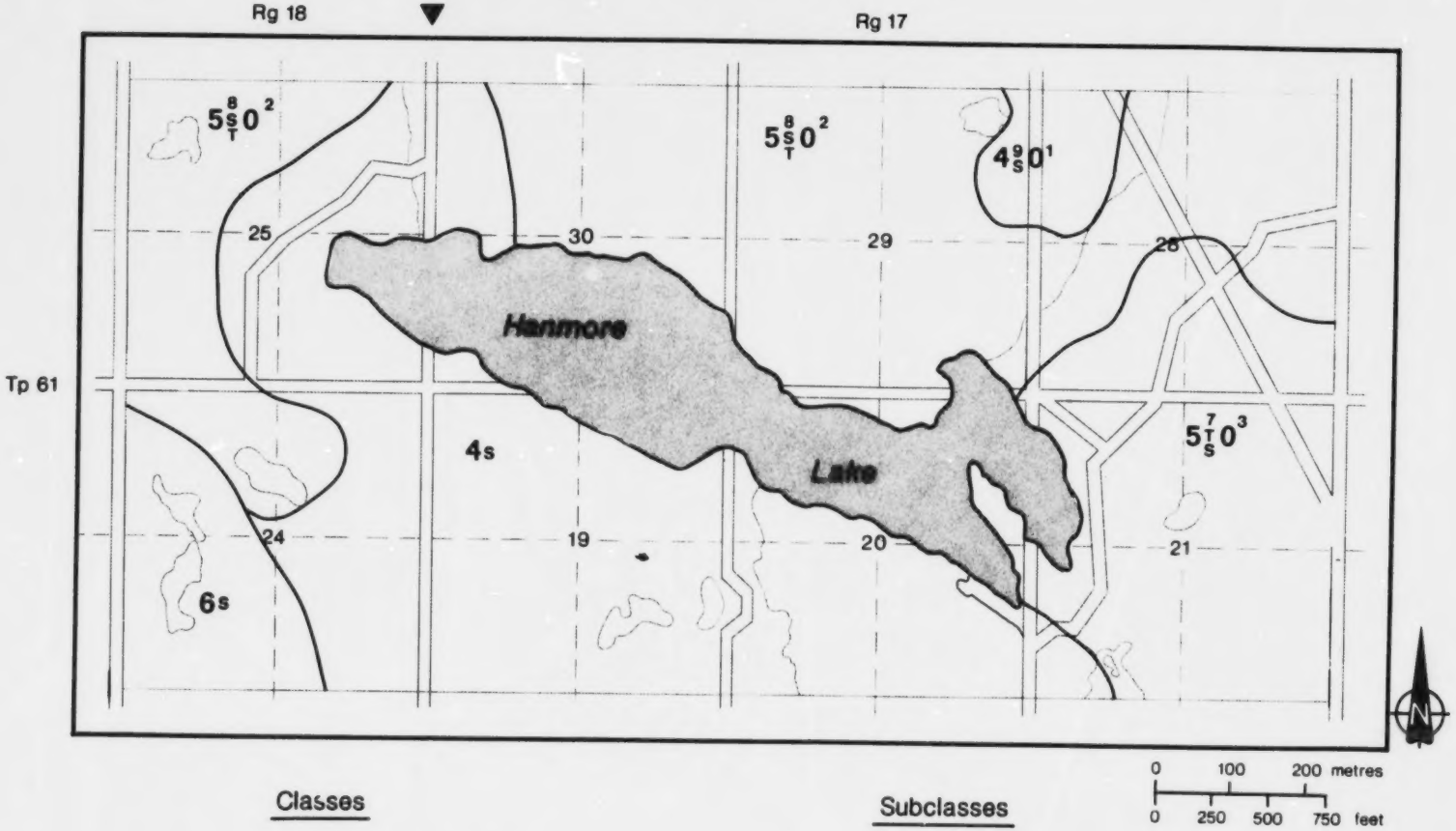
---

2. The C.L.I. uses a ranking system based on a scale of 1 to 7, with 1 indicating the highest resource capability.

The entire study area has been mapped as having a C.L.I. capability of Class 4 for forestry (see Map 11). This class has moderately severe limitations for the growth of commercial timber. The limitations stem from variations in the soil moisture which result in some areas being too wet while other areas are too dry. There are also small portions of Class 6 and Class 7 land which are considered to have very severe limitations to the growth of commercial forests.

AGRICULTURAL CAPABILITY

Map 9



Classes

4 Severe Limitations
5 Very Severe Limitations
6 Capable of perennial forage crops only
0 Organic Soils

Subclasses

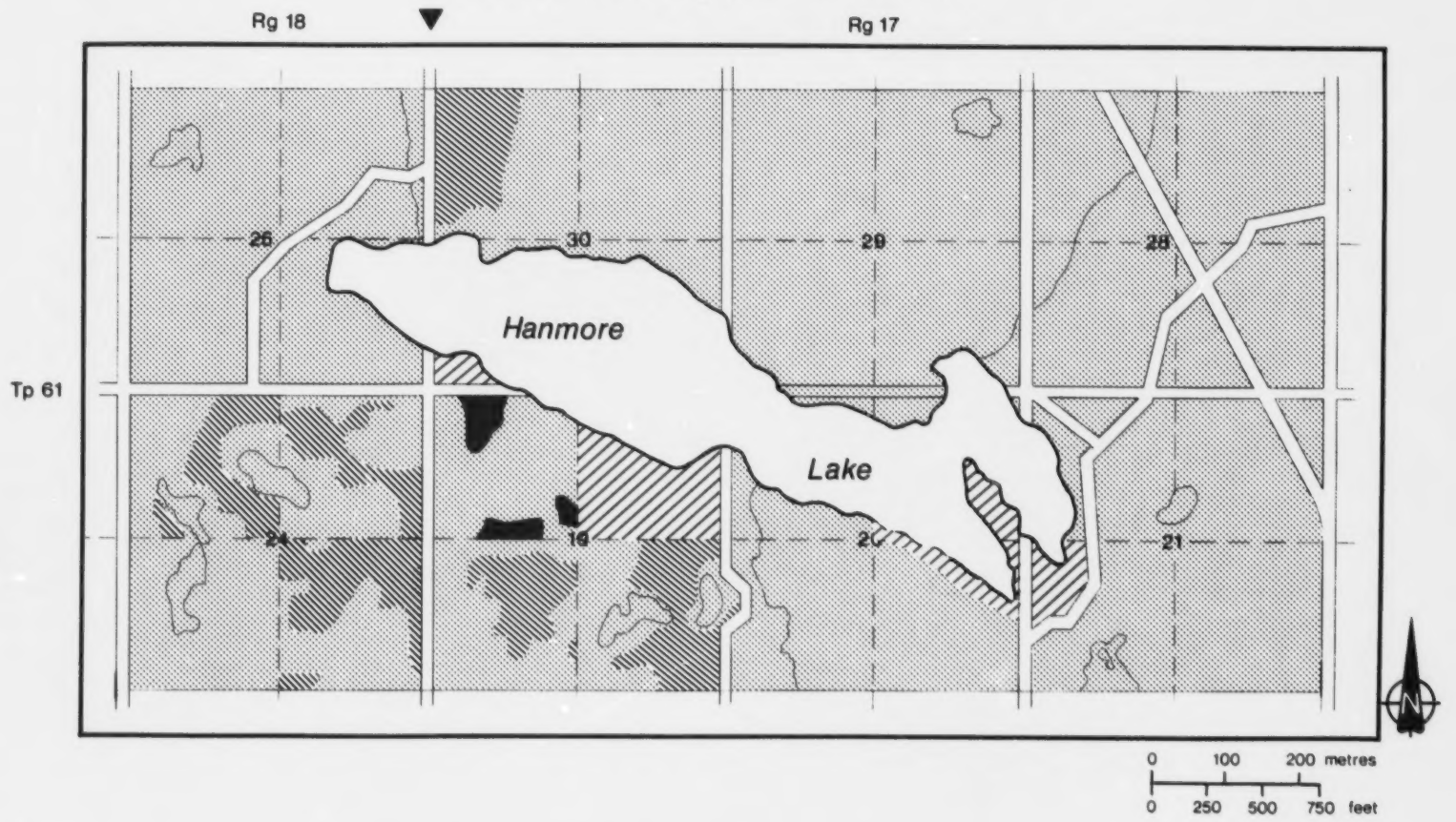
S soil limitations
T adverse topography

8:2 indicates relative proportion

Source: Canada Land Inventory

Map 10

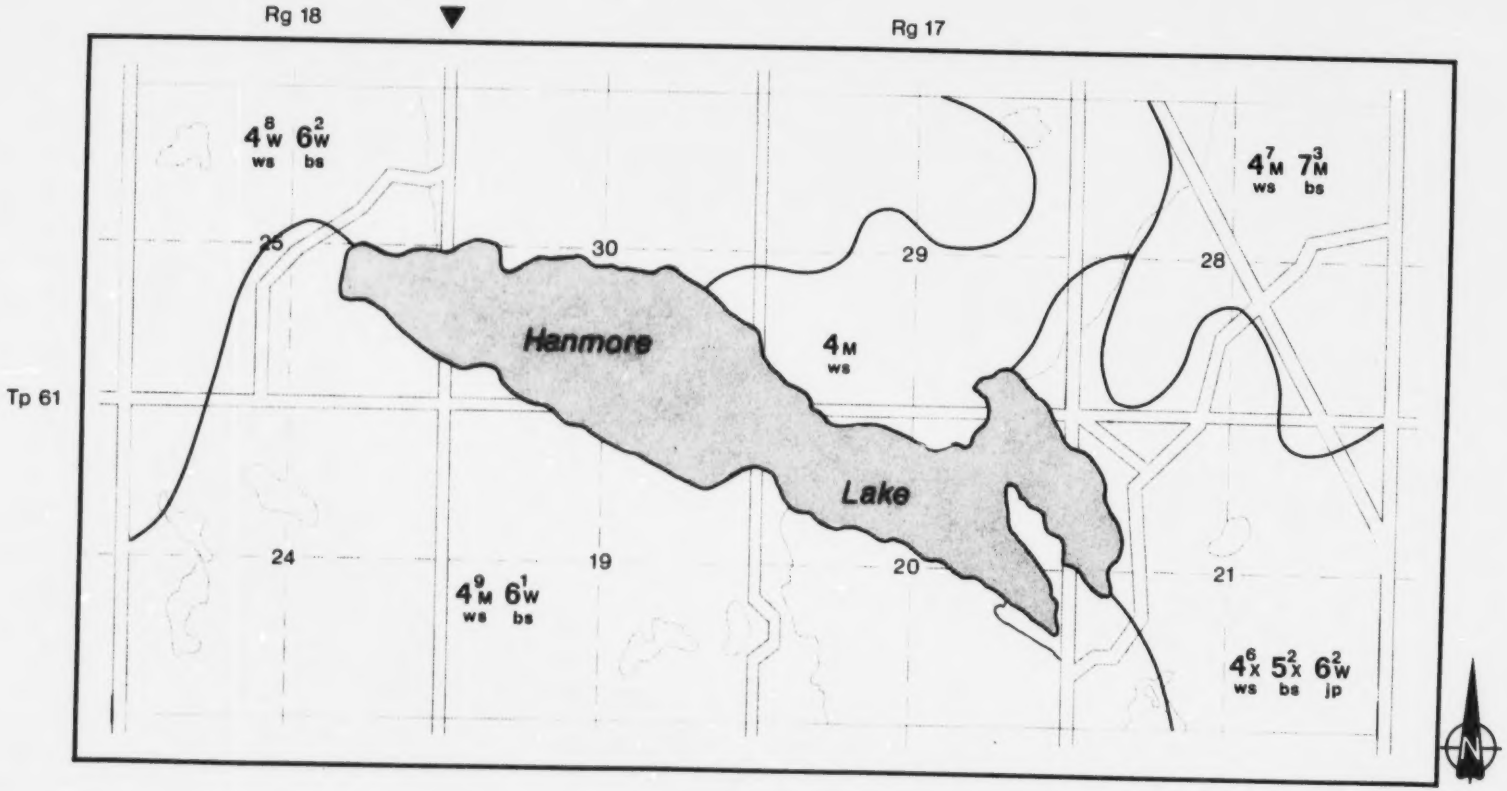
FARMLAND ASSESSMENT RATING



Source: Farmland Assessment Records
County of Smoky Lake

FORESTRY CAPABILITY

Map 11



Classes

4 Moderately Severe Limitations
5 Severe Limitations
6 Very Severe Limitations
7 No Forest Capability

Subclasses

M soil moisture deficiency
W soil moisture excess
X a pattern of M and W

Tree Species Indicator

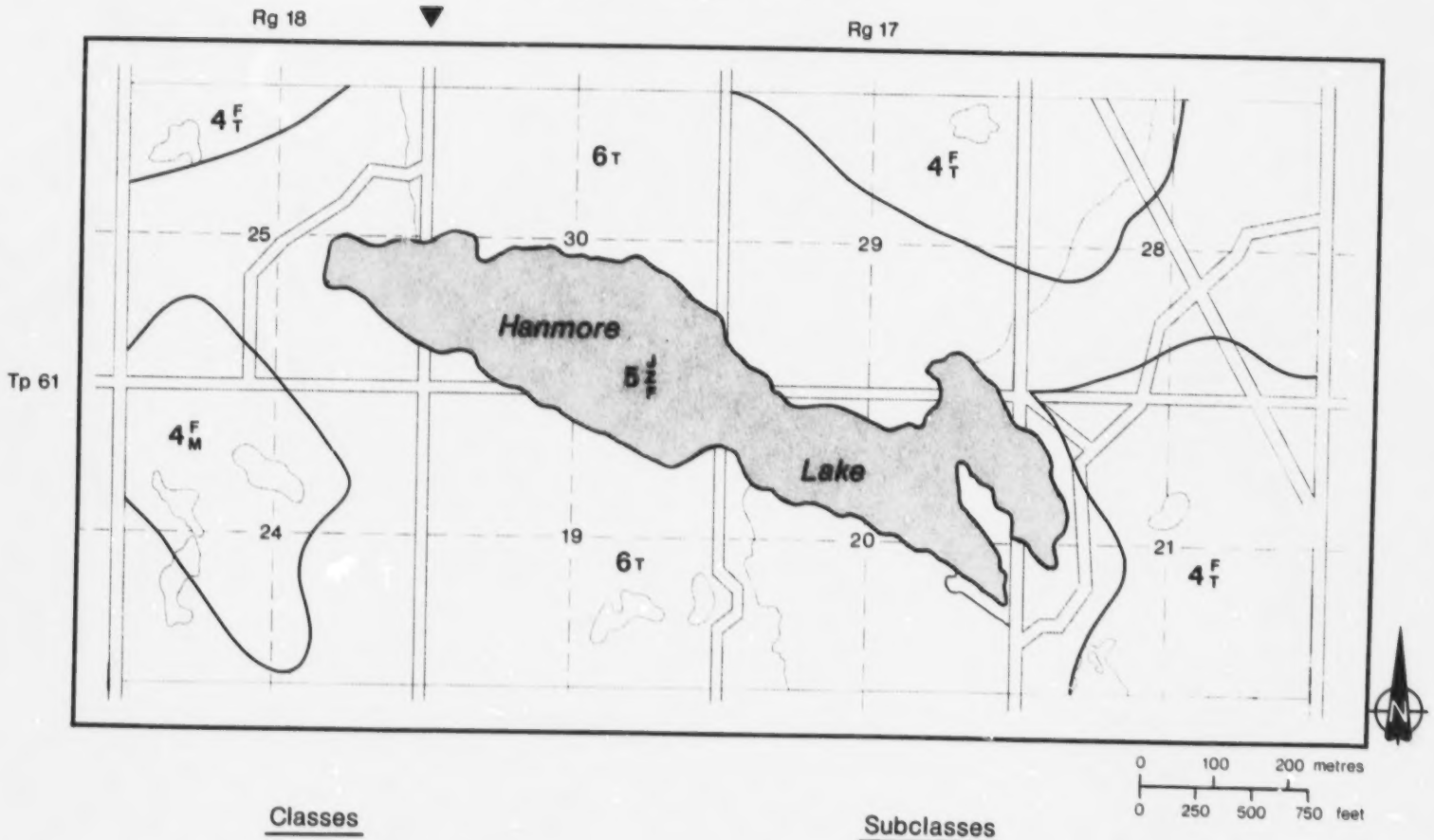
bs Black Spruce
jp Jack Pine
ws White Spruce

0 100 200 metres
0 250 500 750 feet

Source: Canada Land Inventory

WATERFOWL CAPABILITY

Map 12



Classes

4 Moderate Limitations
5 Moderately Severe Limitations
6 Severe Limitations

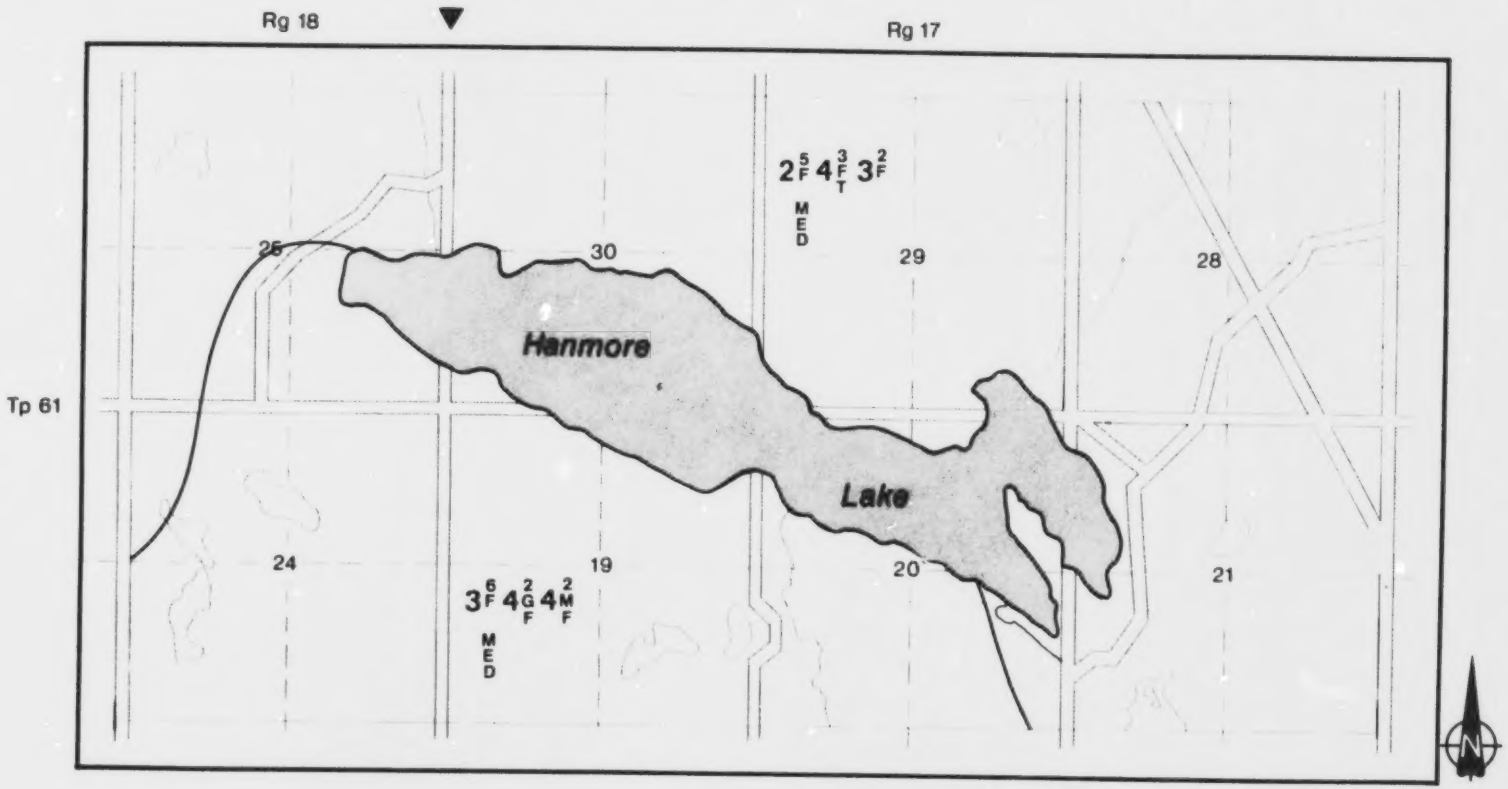
Subclasses

F limited soil and water fertility
J reduced marsh edge
M low soil moisture
T adverse topography
Z water depth

Source: Canada Land Inventory

UNGULATE CAPABILITY

Map 13



Classes

2 Very Slight Limitations
3 Slight Limitations
4 Moderate Limitations

Subclasses

F soil fertility limitation
G landform limitation
M soil moisture limitation
T adverse topography

Ungulate Species

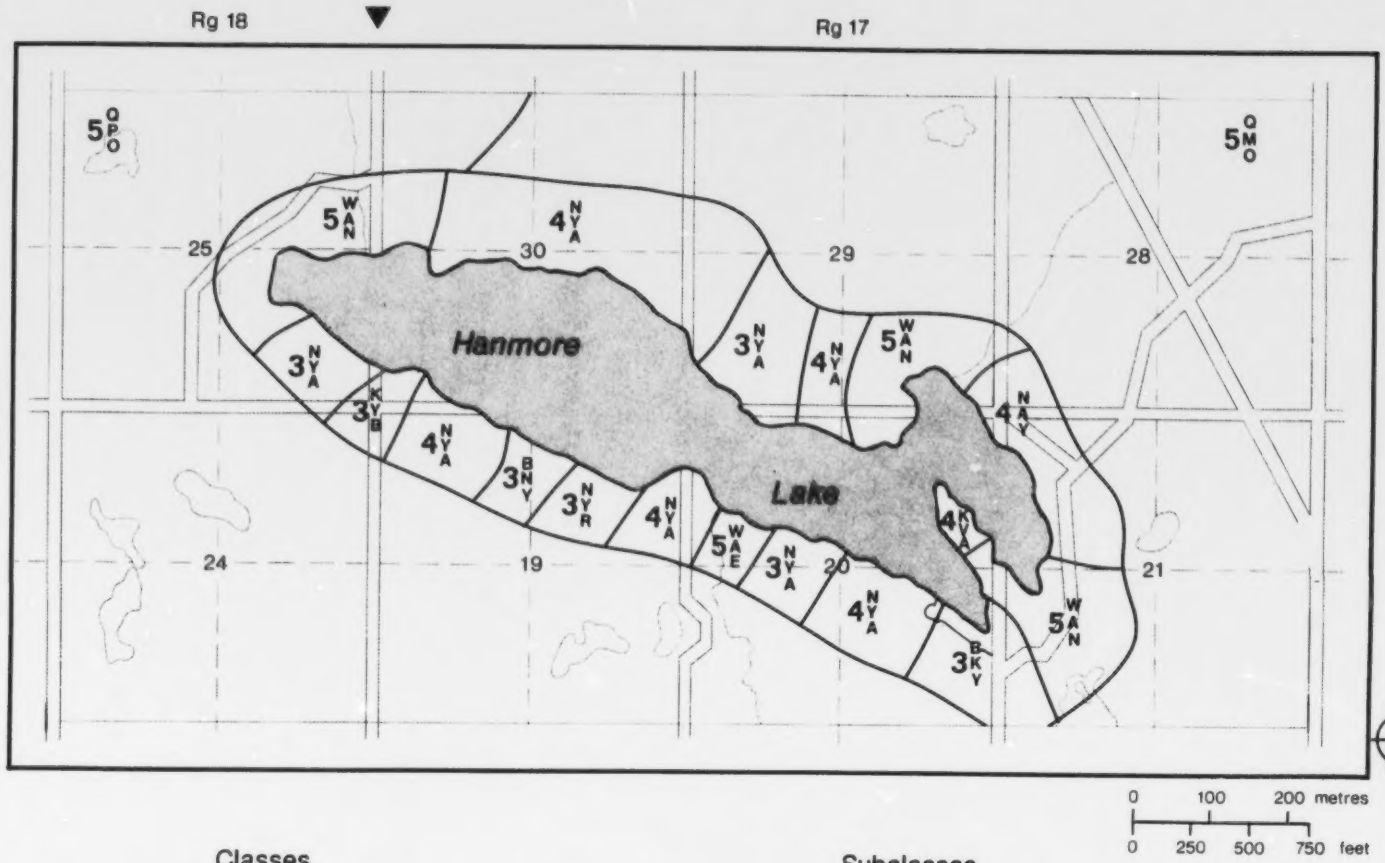
M Moose
E Elk
D deer

0 100 200 metres
0 250 500 750 feet

Source: Canada Land Inventory

RECREATION CAPABILITY

Map 14



Classes

3 Moderately High Capability
4 Moderate Capability
5 Moderately Low Capability

Subclasses

A angling
B beach activities
K camping
M small water bodies
N cottaging
O viewing wildlife
P cultural landscape
Q landscape variety
V view
W viewing wetland wildlife
Y boating

Source: Canada Land Inventory

4.3 Wildlife

The C.L.I. for waterfowl in the study area is low (see Map 12). The lake itself is rated as a Class 5, which means it has moderately severe limitations for waterfowl production. The poor habitat conditions are due to a reduced marsh edge along the lake, excessive water depth along the shoreline, and insufficient nutrients in the soil and water for optimum plant growth. The areas which are rated as Class 6 have severe limitations because the topography limits the development and permanency of wetland areas. The areas which have been rated as Class 4, have only moderate limitations for waterfowl production, and generally correspond to the poorer drained portions of the study area. Class 4 lands provide an improved habitat area but are still limited by topography, insufficient soil or water nutrients, and low soil moisture.

The study area as a whole has a good capability for the production of ungulates (hoofed animals), (see Map 13). The area north of the lake is generally rated as Class 2 while the area to the south is largely a Class 3. Lands in these classes have very slight to slight limitations for ungulate production. These limitations are usually related to the lack of nutrients in the soil, which limits its usefulness for producing suitable food.

4.4 Historical/Archaeological

The records of Alberta Culture indicate that there are no significant historic structures in the study area and that the potential for future finds is low. However, there is a high to medium potential that historical resource sites could exist, particularly around the lakeshore.

4.5 Recreation

The potential of an area for recreational use can be summed up as a balance between the desired uses for the area and its physical capability to accommodate these uses. The following sections examine the physical capabilities of the study area to accommodate a variety of recreational uses.

4.5.1 Canada Land Inventory (C.L.I.): Capability for Recreation

The C.L.I. Recreation Capability rating provides an assessment of the intensity or amount of recreational use which a unit of land can support. The C.L.I. also identifies the types of features which provide opportunity for recreation within each one of the land units. These features are listed in order of capability.

The shoreline of Hanmore Lake has varying capabilities for outdoor recreational activities ranging from moderately high to moderately low (see Map 14). In general, the south shore is characterized by Class 3 land which can sustain a moderately high level of use, with potential for cottaging, family boating, camping, and beach activities. Both the County beach area and the Alberta Transportation campsites are located on Class 3 land.

The north shore of the lake consists mainly of Classes 4 and 5, which are only capable of sustaining a moderate to moderately low level of use. These areas are better suited to dispersed recreational activities. The Class 4 areas can provide opportunities for cottaging, boating, and angling. The Class 5 areas have potential for viewing wetland wildlife, angling, and cottaging.

4.5.2 Soil Suitability for Recreation

An analysis of the soil types in the study area with respect to their suitability for intensive recreation, cottage development, sewage assimilation, and buildings and roads has been done by the Soils Division of the Alberta Research Council (see Table 1 and Maps 15 to 18). The rating system is based on the soil types and slopes as shown on Map 6. The areas which are rated as good, generally have no constraints to development, while those ranging down to poor will have severe limitations.

From Maps 15 to 18, it can be seen that the Fibrisol soils have a consistently poor rating. These organic soils are unsuitable for all of the rated uses due to wetness, a moderate shrink/swell potential, susceptibility to frost heave and a potential for groundwater contamination.

A prominent area to the east of the lake has been rated as fair to poor on all of the maps. Development within this area will experience problems related to slope (9-15%), as well as limitations imposed by pockets of organic soil.

a) Intensive Recreation (see Map 15)

Much of the study area has soil conditions which are suitable for intensive recreation. The exceptions to this are the organic soils which are rated as poor and the area east of the lake which is rated as fair to poor for reasons previously stated. The southwest corner of the study area is rated as fair because the sandy soils have an erosion potential.

b) Cottage Development (see Map 16)

With the exception of the organic soils and the area east of the lake, the study area is rated as good for cottage development.

c) Sewage Assimilation (see Map 17)

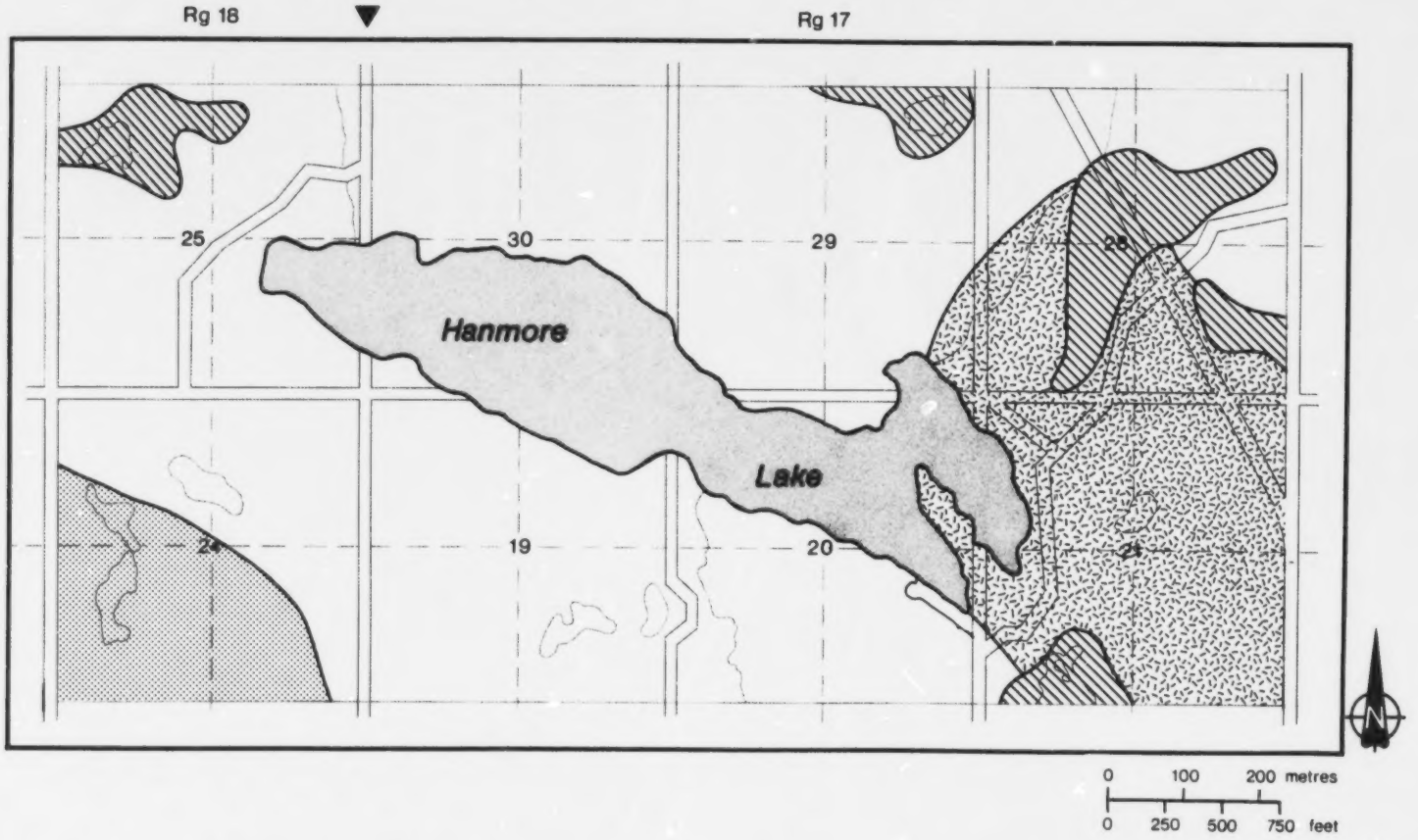
The best soils for sewage assimilation are the rapidly drained, sandy soils to the southwest of the lake. The largest portion of the study area is rated as fair and its limitations related to soil permeability. East of the lake, the soil is rated as fair to poor and is unsuitable for sewage assimilation due to moderate/slow permeability, high clay content and groundwater contamination hazard.

d) Buildings with Basements and Road Construction (see Map 18)

The best soils in the study area for the construction of roads and buildings with basements are located southwest of the lake. The balance of the study area is affected by shrink/swell action and is susceptible to frost heave. The area east of the lake will also experience constraints due to the topography and therefore, has been rated as fair to poor.

SOIL SUITABILITY FOR INTENSIVE RECREATION

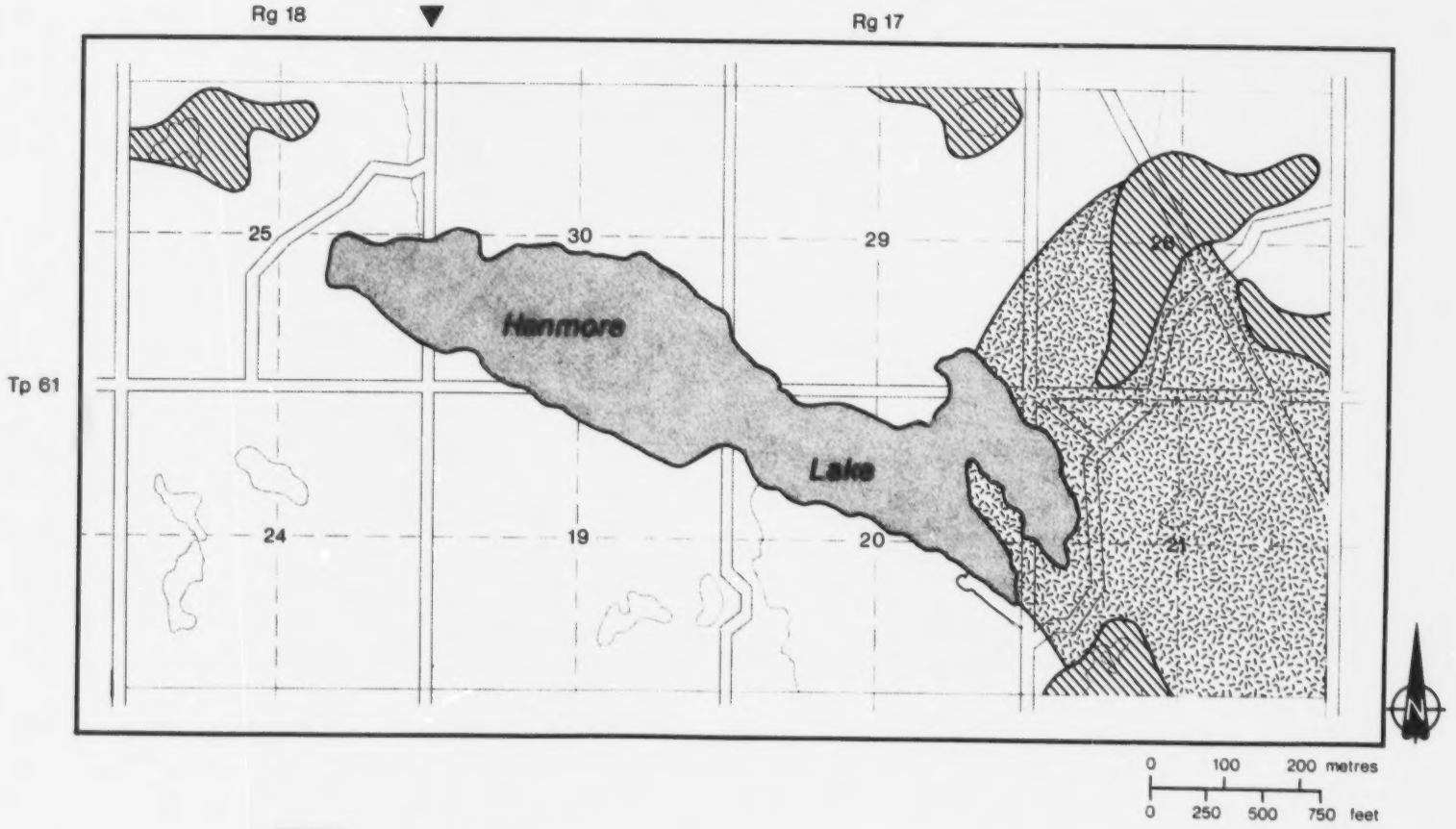
Map 15



Source: Soil Suitability Ratings by Soils Division, Alberta Research Council

SOIL SUITABILITY FOR COTTAGE DEVELOPMENT

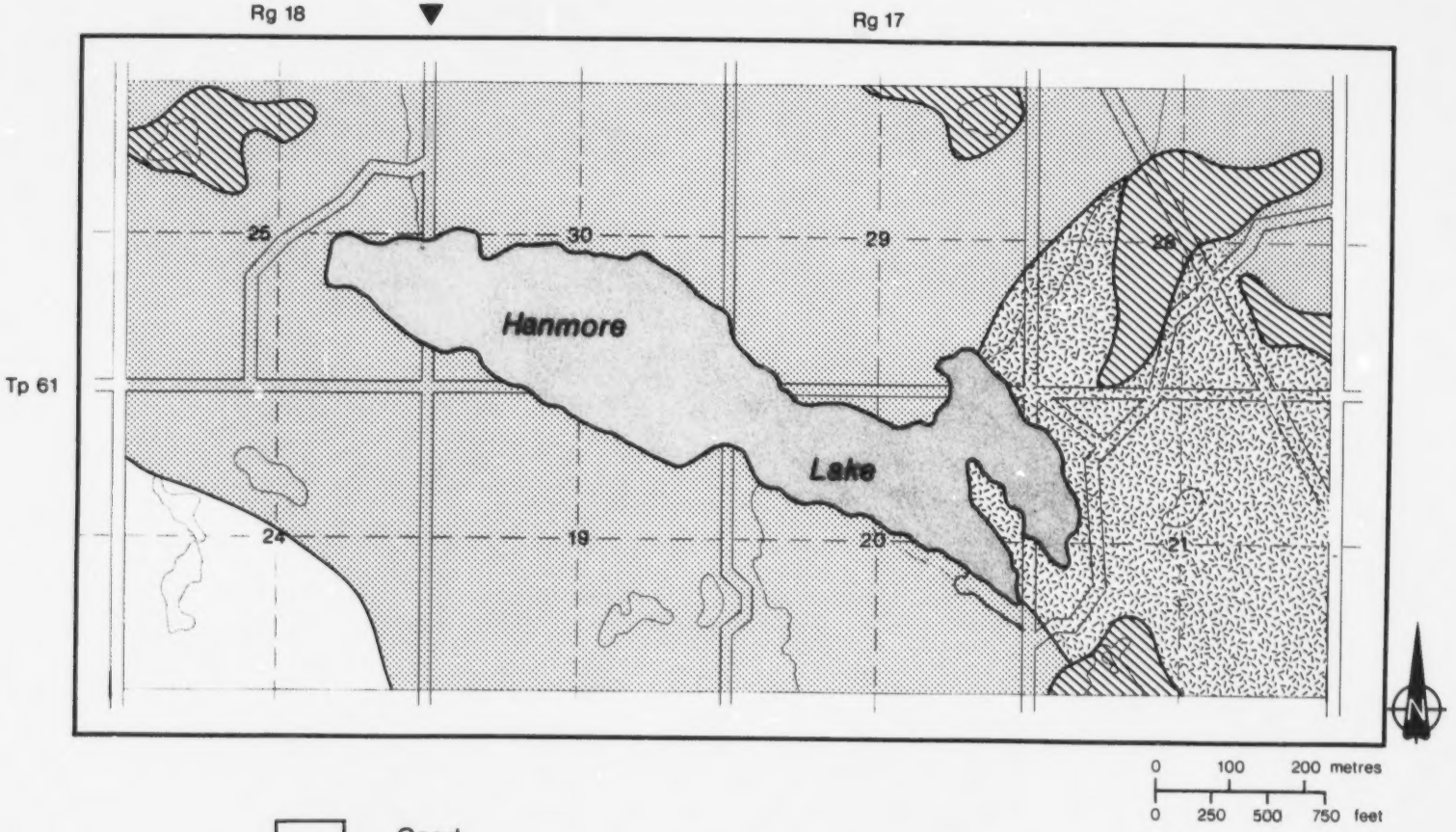
Map 16



Source: Soil Suitability Ratings by Soils Division, Alberta Research Council

SOIL SUITABILITY FOR SEWAGE ASSIMILATION

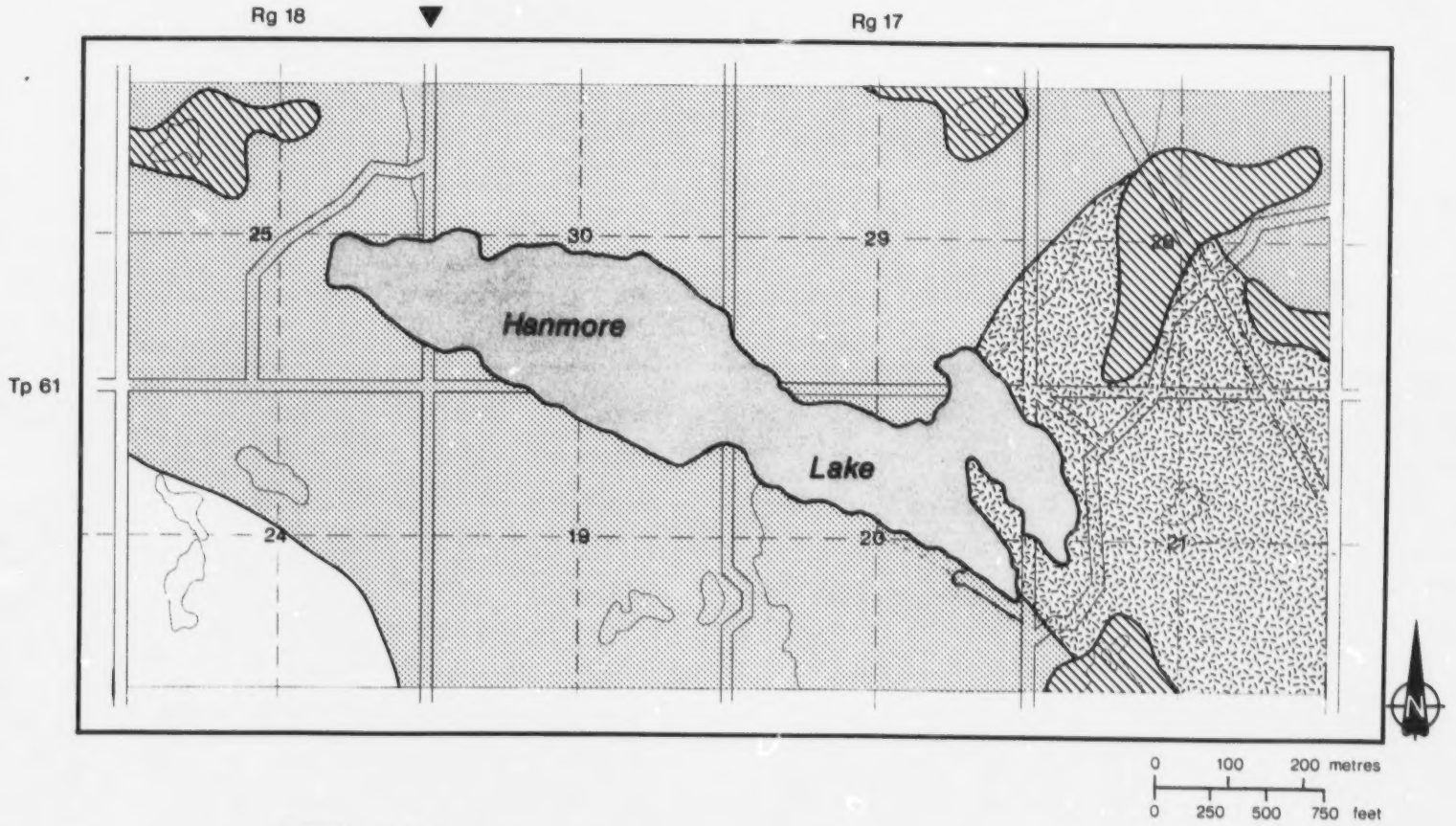
Map 17



Source: Soil Suitability Ratings by Soils Division, Alberta Research Council

SOIL SUITABILITY FOR BUILDINGS AND ROADS

Map 18



Source: Soil Suitability Ratings by Soils Division, Alberta Research Council

TABLE 1

SUMMARY OF SOIL SUITABILITIES

	SUITABILITY FOR:							
	Road Construction		Cottage Development		Sewage Assimilation		Intensive Recreation	
Slope →	0 - 9%	>9 - 15%	0 - 9%	>9 - 15%	0 - 9%	>9 - 15%	0 - 9%	>9 - 15%
Ah Athabasca	Fair[1]	Fair[1]	Good	Fair	Fair[2]	Fair[2]	Good	Fair
Co Codesa Complex	Good-Fair[1,4]	Fair[1,4]	Good	Fair	Good-Fair[5,6]	Fair[5,6]	Good	Fair[7,8]
Ed Edwand	Good	Fair	Good	Fair	Good	Fair	Fair[7,8]	Fair[7,8]
F Fibrisol	Poor[1,3,4]	Poor[1,3,4]	Very Poor[3]	Very Poor[3]	Very Poor[3,9]	Very Poor[3,9]	Very Poor[9]	Very Poor[9]
Nc Nicot Complex	Good	Fair	Good	Fair	Good	Fair	Fair[7,8]	Fair[7,8]
Nt Nestow	Good	Fair	Good	Fair	Good	Fair	Fair[7,8]	Fair[7,8]

1. moderate shrink-swell potential
2. moderate permeability
3. wetness, organic soil
4. susceptibility to frost heave
5. high clay content
6. slow permeability
7. sandy surface texture
8. erosion hazard
9. groundwater contamination hazard

EVALUATION AND ASSESSMENT

5. EVALUATION AND ASSESSMENT

This section of the Background Report serves two purposes. Firstly, it identifies the main land use and lake use issues which currently exist in the study area. Secondly, it attempts to tie together both the biophysical characteristics and the resource capabilities of the lake so that we can identify those factors which will aid or constrain management options at Hanmore Lake (see Map 19).

5.1 Issues

5.1.1. Cottage Development

Section 3.2 of this report identified four cottaging areas along the southeast shore in which there are examples of both unauthorized development and conflict with Section 78 of the Planning Act, R.S.A. 1980. Section 78 of the Planning Act states that only one residence may be constructed per parcel of land. The Lake Management Plan should provide direction on how this issue can be permanently resolved. The unauthorized development on crown land is solely the responsibility of Alberta Energy and Natural Resources.

5.1.2 Development of Crown Land

Alberta Energy and Natural Resources has indicated an intent to provide for recreational cottage subdivision on Hanmore Lake through the release of preselected crown parcels to the private sector. The Department views this as an opportunity to not only organize and legitimize the unauthorized cottage development on the northeast quarter of Section 20, but to also provide for greater recreational opportunities on the lake. Alberta Energy & Natural Resources supports the preparation of a lake management plan prior to the expansion of development on the lake. The Department will, therefore, look to the lake management plan in evaluating its own development proposals and in its site selection process.

5.1.3 Boating Conflicts

The questionnaire results reveal that both cottagers and public users of the lake feel there is a strong need to regulate boating speeds and boating activities in certain areas of the lake. A significant percentage of lake users feel that the lake surface is overused on weekends, particularly on long holiday weekends.

5.1.4 Lake User Conflicts

The questionnaire provided the public and cottage owners with an opportunity to write any general comments they had about Hanmore Lake. About 14 percent of those who provided comments noted the existence of lake user conflicts, particularly in the southeast bay area. Specific concern was expressed over the proximity of the swimming area to the boat launch, and the dangers posed by the congestion of boaters, skiers, and swimmers in this confined area.

5.2 Planning Factors

1. Hanmore Lake has a small lake surface (660 acres). Conflicts between different recreational activities such as power boating and canoeing, and waterskiing and fishing are perceived to exist at present during peak use periods.

   As a guideline, lakes under 500 acres in area are not suited to cottage or other intensive recreational developments. Low intensity activities, fishing, small boat use, hiking, wildlife habitat, etc. are more compatible activities.

2. Soils and topography in the eastern part of the study area pose limitations to the use of this area for resort cottage or intensive recreational uses. This area has an important value for watershed protection and wildlife habitat.

3. The eastern and western ends of the lake have been identified as important habitat areas for aquatic wildlife and northern pike. These areas are quite shallow (10-15 feet) and support emergent and submergent plant growth.

   In general, cottage development or the use of large or high horsepower boats is not recommended in areas where the water depth is less than 15 feet. Fishing, small boat use, and other forms of low intensity recreation which do not conflict with wildlife are more suitable activities.

4. The study area has a high capability for moose, elk and deer production, particularly north of the lake.

5. Due to its depth and low rates of water inflow and outflow, Hanmore Lake may be susceptible to water quality deterioration brought on by activities which increase nutrients entering the lake. Clearing of shoreline vegetation and shoreline developments are examples.

6. The lake's south shore has been identified as having the highest capability for a variety of recreational uses. Site specific evaluations will be required, however, to determine the extent and quality of recreational opportunities.

7. Access to the north shore is currently limited. Recreational developments proposed for this area will require extensive road construction.

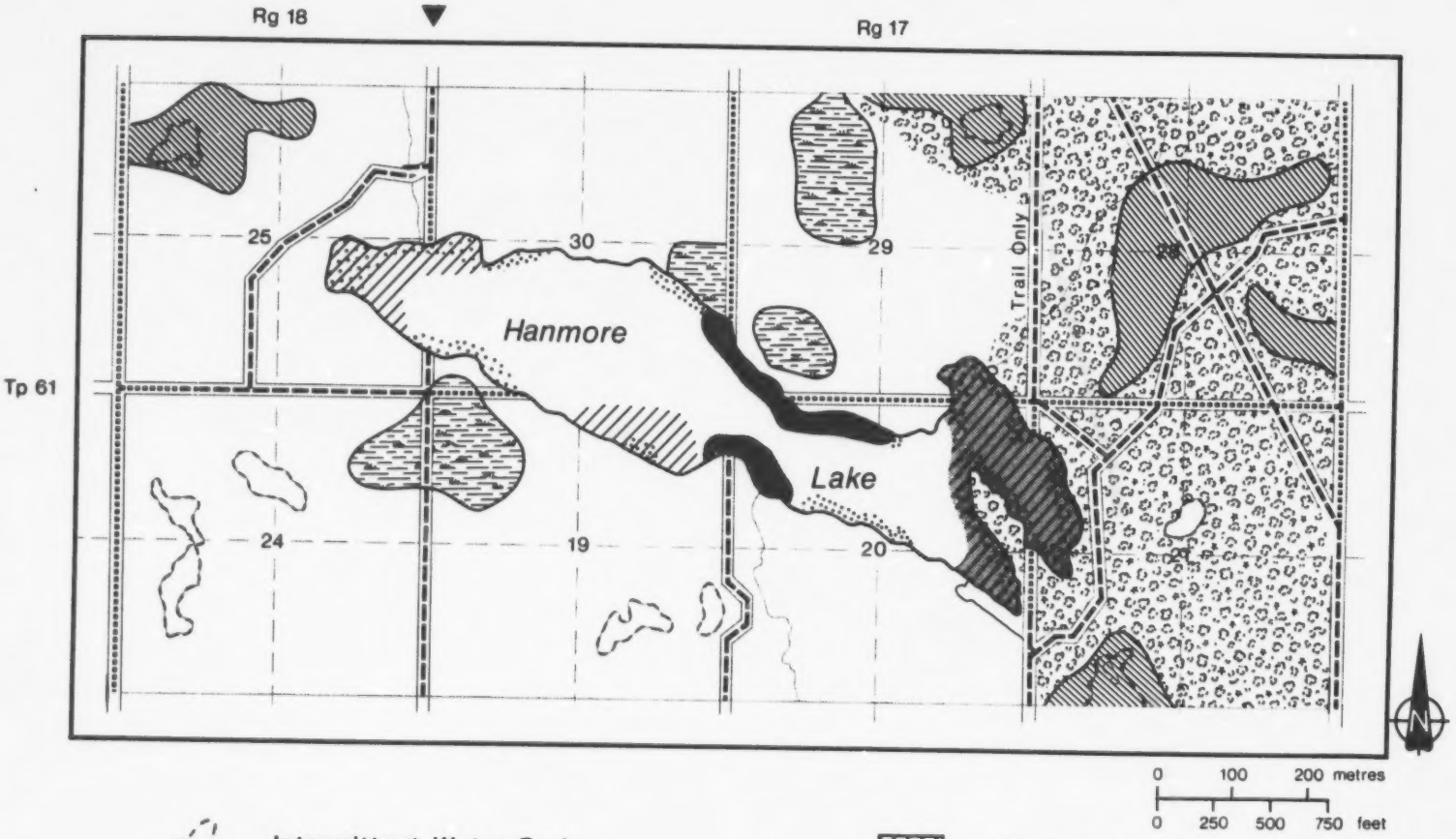
8. Thirty three percent of the questionnaire respondents who provided general comments about Hanmore Lake expressed concern about the possible deterioration of the lake environment which additional development might bring.

9. Lands in the study area have a low capability for agricultural production. However, grazing is a dominant activity in the northern study area and has resulted in extensive vegetative disturbance and environmental damage along the shoreline of Hanmore Lake.

10. The majority of respondents to the questionnaire feel that additional cottage development is not desirable for Hanmore Lake.

DEVELOPMENT CONSIDERATIONS

Map 19



- Intermittent Water Body
- Marsh
- Organic Soil
- Poorly Drained, Hummocky
- Extensive Aquatic Vegetation
- Important Northern Pike and Aquatic-Based Wildlife Habitat
- Shallow Areas
- Deep Offshore Water Important Lake Whitefish Habitat
- Unopened Road Allowance
- Opened Road Allowance

Sources: Regional Habitat Biologist (Alberta Energy and Natural Resources), Hydrographic Survey (Alberta Environment), 1983 Air Photography

APPENDICES

COTTAGE OWNER/PROPERTY OWNER SURVEY

HANMORE LAKE MANAGEMENT STUDY
COUNTY OF SMOKY LAKE
OCTOBER, 1984

For Office Use Only

1 2 3 4

Section A – GENERAL INFORMATION

1. Name and home address of property owner/cottage owner (For future mailouts).

_____

2. Are you a seasonal resident of this property? 5
   1( ) YES 2( ) NO

   If YES, please indicate the approximate amount of time spent on this property annually. 6

_____

3. a) Is this property used for agriculture? 1( ) YES 2( ) NO 7
   b) Is this property used for livestock? 1( ) YES 2( ) NO 8

   If YES, please indicate what types of livestock and approximate numbers of each

_____

_____

   c) Do you grow any crops on this property? 1( ) YES 2( ) NO 9

   If YES, do you use any type of fertilizer to encourage crop growth? 10
   1( ) YES 2( ) NO

4. Which of the following services are supplied to your home or cottage. 11-16
   ( ) Electricity
   ( ) Propane
   ( ) Natural Gas
   ( ) Oil Heat
   ( ) Telephone
   ( ) Other
   (Specify _____)

5. Where do you obtain your drinking water? 17-21
   ( ) Lake
   ( ) Spring
   ( ) Private well at residence
   ( ) Bring from home
   ( ) Other source
   (Specify _____) 22

6. What type of waste disposal system do you use for:

(a) **Toilets**	(b) **Sink Wastes**	(c) **Solid Wastes**	23-32
( ) Pit toilet	( ) Dry Well	( ) Local landfill site	
( ) Septic field	( ) Septic field	( ) Take back home	
( ) Chemical toilet	( ) Pit toilet		
( ) Pump-out tank	( ) Pump-out tank		

If others, please specify _____

7. Have you encountered problems with any of these disposal systems? 33
$_1$( ) YES $_2$( ) NO

IF YES, please indicate what kind of problems have occurred.

_____

Section B – RECREATION

8. If you own a cottage or recreate at Hanmore Lake, why did you choose this lake? Please rank your first four reasons in order of importance (i.e. 1 for the most important reason, 2 for the second most important reason, etc.):

( ) Friends or relatives have homes or cottages at lake	47
( ) Good fishing	48
( ) Close to good highway	49
( ) Clean lake water	50
( ) Close to home	51
( ) Close to town or village for supplies	52
( ) Natural beauty of lake	53
( ) Area has abundant wildlife and waterfowl	54
( ) Level of development at lake	55
( ) Good beaches	56
( ) Good boating	57
( ) Other – please specify _____	58

9. Do you see any deficiencies in the physical condition of Hanmore Lake for recreational use? $_1$( ) YES $_2$( ) NO $_3$( ) DON'T KNOW 59

If YES, please rank the three most serious problems (i.e. 1 for most serious problem, 2 for second most serious problem, etc.), and indicate their location on attached map: 60-64

( ) Algae growth	( ) Weed growth in open areas of lake
( ) Fluctuating water levels	( ) Other – please specify
( ) Shoreline weed growth	_____

☐ 65

10. Please rank the four major recreational activities you engage in at Hanmore Lake, in order of importance (i.e. 1 for most important, 2 for second most important, etc.):

66-78

( ) Swimming	( ) Waterskiing
( ) Fishing	( ) Hiking
( ) Camping	( ) Photography
( ) Sailing	( ) Picnicing
( ) Power boating	( ) Nature study
( ) Canoeing	( ) General relaxation

( ) Other – please specify _____

11. To the best of your recollection, please indicate in the spaces provided the **number** of people in your residence/cottage (family, friends, etc.) that used Hanmore Lake on any given day during the summer of 1984. Long weekends are marked with diagonal lines.

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23 30	24	25	26	27	28	29

12. Do you engage in recreational activities at Hanmore Lake during the winter? 80
    1( ) YES 2( ) NO

    IF YES, please check the three major recreational activities engaged in, in order of importance (i.e. 1 for most important, 2 for second most important, etc.): 81-88

    ( ) Snowmobiling ( ) Ice fishing
    ( ) Hunting ( ) Skating
    ( ) Cross-country skiing ( ) General relaxation
    ( ) Snowshoeing ( ) Other-please specify _____

13. Do you use a boat at Hanmore Lake? 1( ) YES 2( ) NO 89

    If YES, please indicate types and number of boats used:

Type	Number Owned	Horsepower	
MOTORBOAT			90 91
ROW BOAT			92 93
CANOE			94 95
SAILBOAT			96 97

Section C – YOUR VIEWS

14. How would you rate the fishing at Hanmore Lake? 98
    1( ) Excellent 4( ) Poor
    2( ) Good 5( ) Don't know
    3( ) Fair

15. a) How would you rate the over-all water quality of Hanmore Lake? 99
    1( ) Excellent 4( ) Poor
    2( ) Good 5( ) Don't know
    3( ) Fair

    b) Do you think the water quality is: 100
    1( ) getting better 4( ) varies over time
    2( ) about the same 5( ) don't know
    3( ) getting worse

16. On an average weekend, how would you rate the use of the:
    a) **Lake surface** (boats, skiers, etc.)? 101
    1( ) Under used 3( ) Over used
    2( ) Adequately used 4( ) Don't know

    b) **Public beach areas**
    1( ) Under used 3( ) Over used
    2( ) Adequately used 4( ) Don't know 102

17. On long holiday weekends, how would you rate the use of:
    a) **Lake surface** (boats, skiers, etc.)? 103
    1( ) Under used 3( ) Over used
    2( ) Adequately used 4( ) Don't know

    b) **Public beach areas**
    1( ) Under used 3( ) Over used 104
    2( ) Adequately used 4( ) Don't know

18. Do you feel there is a need for more beaches and day use areas on Hanmore Lake? 1( ) YES 2( ) NO 3( ) DON'T KNOW 105

19. Do you feel that existing boat launch facilities are sufficient? 106

    1( ) YES 2( ) NO 3( ) DON'T KNOW

20. Do you feel that use of the lake by boats should be: 107
    1( ) Unrestricted
    2( ) Zoned to control speed in certain areas
    3( ) Zoned to prohibit all or some types of boating in certain areas
    4( ) Don't Know

    If you feel boating restrictions are required, please indicate type and location on the attached map.

21. Are you aware of any **land use** conflicts occurring in the Hanmore Lake area? 1( ) YES 2( ) NO 110

    If YES, please describe the conflicts here, and indicate their location on the attached map. ☐ 111

    _____

    _____

22. Are you aware of any **lake use** conflicts on Hanmore Lake? 112
    1( ) YES 2( ) NO
    If YES, please describe the conflicts here, and indicate their location on the attached map.

    ☐ 113

    _____

    _____

23. Do you feel that additional cottage development is desirable for Hanmore Lake? $_1$( ) YES $_2$( ) NO

114

24. Do you feel that commercial services (stores, gas stations, etc.) would be desirable for Hanmore Lake? $_1$( ) YES $_2$( ) NO

115

If not, why? _____

_____

☐ 116

25. We appreciate the time you have taken to answer this questionnaire. Please use this space for any additional comments you may have concerning Hanmore Lake. Your comments will be of value to our study of the Hanmore Lake Area. _____

☐☐ 118 119

_____

_____

☐☐ 120 121

_____

☐☐ 122 123

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☐☐ 124 125

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☐☐ 126 127

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☐☐ 128 129

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LAKE USER/LABOUR DAY
WEEKEND SURVEY

For Office Use Only

1 2 3

4

HANMORE LAKE MANAGEMENT STUDY
COUNTY OF SMOKY LAKE
OCTOBER, 1984

Section A – GENERAL INFORMATION

1. How far is Hanmore Lake from your place of residence?
   1( ) 10 miles or less
   2( ) 11-20 miles
   3( ) 21-60 miles
   4( ) more than 60 miles

34

2. Approximately how many times have you been to Hanmore Lake this year for recreational activities?
   1( ) 0
   2( ) 1 - 3
   3( ) 4 - 6
   4( ) 7 - 10
   5( ) more than 10

35

3. How long is your typical length of stay at Hanmore Lake?
   1( ) For the day
   2( ) Overnight
   3( ) 2 nights
   4( ) 3 nights
   5( ) Other (please specify _____)

36

4. Where do you obtain your drinking water while at Hanmore Lake?
   ( ) Lake
   ( ) Spring
   ( ) Bring from home
   ( ) Other (please specify _____)

37-40

41

5. How do you dispose of your solid wastes while at Hanmore Lake?
   ( ) Litter barrels at lake
   ( ) Take back home
   ( ) Local landfill site
   ( ) Alberta Transportation Litter Stops
   ( ) Other (please specify _____)

42-46

Section B – RECREATION

6. Why do you recreate at Hanmore Lake? Please rank your first four reasons in order of importance (i.e. 1 for the most important reason, 2 for the second most important reason, etc.):
   ( ) Friends or relatives have homes or cottages at lake — 47
   ( ) Good fishing — 48
   ( ) Close to good highway — 49
   ( ) Clean lake water — 50
   ( ) Close to home — 51
   ( ) Close to town or village for supplies — 52
   ( ) Natural beauty of lake — 53
   ( ) Area has abundant wildlife and water fowl — 54
   ( ) Level of development at lake — 55
   ( ) Good beaches — 56
   ( ) Good boating — 57
   ( ) Other or please specify _____ — 58

7. Do you see any deficiencies in the physical condition of Hanmore Lake for recreational use? 1( ) YES 2( ) NO 3( ) DON'T KNOW

59

If YES, please rank the three most serious problems (i.e. 1 for most serious problem, 2 for second most serious problem, etc.), and indicate their location on attached map:

60-64

( ) Algae growth
( ) Fluctuating water levels
( ) Shoreline weed growth
( ) weed growth in open areas of lake
( ) Other - (specify _____)

☐ 65

8. Please rank the four major recreational activities you engage in at Hanmore Lake, in order of importance (i.e. 1 for most important, 2 for second most important, etc.):

66-78

( ) Swimming
( ) Fishing
( ) Camping
( ) Sailing
( ) Power boating
( ) Canoeing
( ) Waterskiing
( ) Hiking
( ) Photography
( ) Picnicing
( ) Nature study
( ) General relaxation
( ) Other - please specify _____

9. If you camp at Hanmore Lake what type of camping shelter do you use?

79

1( ) Tent
2( ) Van/truck camper
3( ) Travel or tent trailer
4( ) Motorhome
5( ) Other (specify _____)

10. Do you engage in recreational activities at Hanmore Lake during the winter?

80

1( ) YES 2( ) NO

If YES, please check the three major recreational activities engaged in, in order of importance (i.e. 1 for most important, 2 for second most important, etc.):

81-88

( ) Snowmobiling
( ) Hunting
( ) Cross-country skiing
( ) Snowshoeing
( ) Ice fishing
( ) Skating
( ) General relaxation
( ) Other (specify _____)

11. Do you use a boat at Hanmore Lake? 1( ) YES 2( ) NO

89

If YES, please indicate types and number of boats used:

Type	Number Owned	Horsepower
MOTORBOAT		☐☐ 90 91
ROWBOAT		☐☐ 92 93
CANOE		☐☐ 94 95
SAILBOAT		☐☐ 96 97

SECTION C – YOUR VIEWS

12. How would you rate the fishing at Hanmore Lake? 98
    1( ) Excellent
    2( ) Good
    3( ) Fair
    4( ) Poor
    5( ) Don't know

13. a) How would you rate the over-all water quality of Hanmore Lake? 99
    1( ) Excellent
    2( ) Good
    3( ) Fair
    4( ) Poor
    5( ) Don't know

    b) Do you think the water quality is: 100
    1( ) getting better
    2( ) about the same
    3( ) getting worse
    4( ) varies over time
    5( ) don't know

14. On an average weekend, how would you rate the use of the:
    a) **Lake surface** (boats, skiers, etc.)? 101
    1( ) Under used
    2( ) Adequately used
    3( ) Over used
    4( ) Don't know

    b) **Public beach areas** 102
    1( ) Under used
    2( ) Adequately used
    3( ) Over used
    4( ) Don't know

15. On long holiday weekends, how would you rate the use of:
    a) **Lake surface** (boats, skiers, etc.)? 103
    1( ) Under used
    2( ) Adequately used
    3( ) Over used
    4( ) Don't know

    a) **Public beach areas** 104
    1( ) Under used
    2( ) Adequately used
    3( ) Over used
    4( ) Don't know

16. Do you feel there is a need for more beaches and day use areas on Hanmore Lake? 105
    1( ) YES 2( ) NO 3( ) DON'T KNOW

17. Do you feel that existing boat launch facilities are sufficient? 106
    1( ) YES 2( ) NO 3( ) DON'T KNOW

18. Do you feel that the use of the lake by boats should be: 107
    1( ) Unrestricted
    2( ) Zoned to control speed in certain areas
    3( ) Zoned to prohibit all or some types of boating in certain areas
    4( ) Don't know

    If you feel boating restrictions are required, please indicate type and location on the attached map.

19. Do you feel that the existing recreational facilities at Hanmore Lake are adequate?
1( ) YES 2( ) NO 3( ) DON'T KNOW 108

If NO, why?

_____ ☐ 109

_____

_____

20. Are you aware of any **land use** conflicts occurring in the Hanmore Lake area? 110
1( ) YES 2( ) NO

If YES, please describe the conflicts here, and indicate their location on the attached map.

_____ ☐ 111

_____

21. Are you aware of any **lake use** conflicts on Hanmore Lake?
1( ) YES 2( ) NO 112

If YES, please describe the conflicts here, and indicate their location on the attached map.

_____ ☐ 113

_____

22. Do you feel that additional cottage development is desirable for Hanmore Lake? 114
1( ) YES 2( ) NO

23. Do you feel that commercial services (stores, gas stations, etc.) would be desirable for Hanmore Lake 115
1( ) YES 2( ) NO

If not, why? _____ ☐ 116

_____

24. Would you be willing to pay a fee for the use of campground sites at Hanmore Lake? 117
1( ) YES 2( ) NO 3( ) DON'T KNOW

25. We appreciate the time you have taken to answer this questionnaire. Please use this space for any additional comments you may have concerning Hanmore Lake. Your comments will be of value to our study of the Hanmore Lake Area. _____

_____

_____

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Hanmore Lake Management Study

QUESTIONNAIRE RESULTS

During September and October of 1984, a total of 2959 were distributed to the public and to the cottage owners/landowners within the study area. The distribution and rates of return were as follows:

A. 100 questionnaires were distributed to lake users during the Labour Day weekend. 13 were returned, representing a response rate of 13%.

B. 59 questionnaires were mailed out to all cottage owners/property owners in the study area. 31 were returned, representing a response rate of 53%.

C. 2800 questionnaires were distributed to the public through the Smoky Lake Signal. 62 were returned, representing a response rate of 2.2%.

The following is a statistical summary of the questionnaire results. The **SECTION A – GENERAL INFORMATION** component of the questionnaire differed, depending on whether the questionnaire was sent to the cottage owners or whether it was for public distribution. **SECTIONS B and C** also differed on several questions, these differences are noted throughout the results.

SECTION – GENERAL INFORMATION

(Cottage Owner/Landowner Survey in Study Area)

1. COTTAGE OWNER'S/LANDOWNER'S RESIDENCE (N=31)*

LOCATION	PERCENT
Smoky Lake & Area	56
Edmonton & Area	37
Vegreville	5
Calgary	2

2. SEASONAL RESIDENCY (N=31)

SEASONAL	COTTAGE OWNERS N=28	AGRICULTURAL LANDOWNERS N=3
Yes	100%	100%
No	--	--

AMOUNT OF TIME SPENT ON PROPERTY ANNUALLY

TIME	COTTAGE OWNERS N=21	AGRICULTURAL LANDOWNERS N=2
14 DAYS OR LESS	--	--
15-30 DAYS	14%	50%
31-45 DAYS	29%	50%
46-60 DAYS	19%	--
OVER 60 DAYS	38%	--

* "N" is the number of cottage owner's/landowner's who answered the question. All percentages are based on "N".

3a. PROPERTY USED FOR AGRICULTURE
(N=30)

AGRICULTURE	COTTAGE OWNERS N=27	AGRICULTURAL LANDOWNERS N=3
Yes	--	33%
No	100%	67%

3b. PROPERTY USED FOR LIVESTOCK
(N=30)

LIVESTOCK	COTTAGE OWNERS N=28	AGRICULTURAL LANDOWNERS N=3
Yes	4%	--
No	96%	100%

TYPES OF LIVESTOCK

LIVESTOCK TYPE	COTTAGE OWNERS N=1	AGRICULTURAL LANDOWNERS N=1
Cattle	--	Approximately 30 head
Chickens	approximately 25	--

3c. CROPS GROWN
(N=31)

CROPS	COTTAGE OWNERS N=28	AGRICULTURAL LANDOWNERS N=3
Yes	--	33%
No	100%	67%

USE OF FERTILIZER
N=6

FERTILIZER	PERCENT
Yes	—
No	100%

4. SERVICES SUPPLIED TO RESIDENCE
(N=31)

SERVICE	PERCENT
Electricity	68
Propane	16
Natural Gas	3
Oil	3
Telephone	35
Other	—

5. SOURCE OF DRINKING WATER
(N=31)

SOURCE	PERCENT
Lake	—
Spring	—
Private Well at residence	3
Bring from home	90
Other	10

6a. TOILET WASTE DISPOSAL
(N=29)

METHOD	PERCENT
Pit Toilet	83
Septic Field	3
Chemical Toilet	3
Pump-out Tank	14

6b. SINK WASTE DISPOSAL
(N=27)

METHOD	PERCENT
Dry Well	7
Septic Field	4
Pit Toilet	70
Pump-out Tank	11
Other	7

6c. SOLID WASTE DISPOSAL
(N=27)

METHOD	PERCENT
Local landfill site	37
Take back home	67
Other	7

7. PROBLEMS WITH WASTE DISPOSAL SYSTEM
(N=30)

PROBLEMS	PERCENT
Yes	3
No	97

NATURE OF PROBLEM
(N=1)

Unpleasant odors from pit toilet.

SECTION A – GENERAL INFORMATION
(Public Distribution Questionnaire)

1. DISTANCE FROM PLACE OF RESIDENCE
(N = 75)

DISTANCE IN MILES	PERCENT
10 or less	13
11 to 20	45
21 to 60	23
over 60	19

2. FREQUENCY OF VISITS IN 1984
(N = 75)

NO. OF VISITS	PERCENT
0	11
1-3	31
4-6	17
7-10	15
over 10	27

3. TYPICAL LENGTH OF STAY AT LAKE
(N = 73)

LENGTH OF STAY	PERCENT
For the day	52
Overnight	8
2 nights	25
3 nights	4
other	11

4. SOURCE OF DRINKING WATER
(N=106)

SOURCE	NUMBER
Lake	1
Spring	0
Bring from home	70
Other	2
No response	33

5. SOLID WASTE DISPOSAL
(N=106)

SOURCE	NUMBER
Litter barrels at lake	52
Take home	24
Local landfill site	0
Alta. Transp. litter stops	1
Other	29

SECTION B – RECREATION

(Question 11 – Calendar Question – Cottage Owner/Landowner Survey Only)

(SEE NEXT PAGE)

11. COTTAGE USE RATES (persons per cottage)

N = 27

MAY

S	M	T	W	T	F	S
		1	2	3	4 .29	5 1.70
6 1.48	7	8	9 .14	10 .14	11 .22	12 1.85
13 1.62	14	15	16	17	18 .19	19 4.29
20 5.07	21 4.25	22 .14	23 .18	24 .03	25 .29	26 1.40
27 1.07	28	29	30	31 .14		

JUNE

S	M	T	W	T	F	S
					1 .62	2 2.25
3 2.25	4	5	6	7 .25	8 .37	9 2.62
10 2.70	11	12	13	14	15 .70	16 3.48
17 3.07	18	19	20	21 .22	22 .66	23 2.37
24 2.62	25	26	27	28	29 .40	30 5.40

JULY

S	M	T	W	T	F	S
1 7.14	2 5.59	3 .70	4 .33	5 .33	6 .40	7 1.48
8 1.74	9 .33	10 .33	11 .33	12 .40	13 .48	14 2.66
15 3.22	16 .66	17 .51	18 .59	19 .59	20 .66	21 1.70
22 1.92	23 .92	24 .92	25 .92	26 1.00	27 1.25	28 2.70
29 3.33	30 .77	31 .59				

AUGUST

S	M	T	W	T	F	S
			1 .59	2 .62	3 1.03	4 6.85
5 8.33	6 6.77	7 1.29	8 1.48	9 1.62	10 2.03	11 3.18
12 3.11	13 .74	14 .74	15 .81	16 .70	17 1.25	18 2.11
19 2.25	20 .33	21 .03	22 .22	23 .29	24 .66	25 2.07
26 2.25	27 .18	28 .03	29 .03	30 .03	31 .44	

SEPTEMBER

S	M	T	W	T	F	S
						1 3.18
2 2.9	3 22.85	4 .18	5 .18	6 .14	7	8 1.07
9 1.14	10	11	12	13 .07	14 .14	15 1.14
16 1.07	17	18 .07	19 .07	20 .07	21 .14	22 .70
23 .70 30 .22	24	25 .07	26	27	28 .18	29 .62

* Question 11 found only in cottage owner's/landowner's survey

SECTION B – RECREATION

(All Questionnaires Except Where Noted)

6.8*1 REASONS FOR CHOOSING HANMORE LAKE (N=)

REASONS	RANK WEIGHT*2	RANK	CONSIDERED BY
Close to home	694	1	63
Natural beauty of lake	565	2	54
Clean lake water	383	3	35
Friends/relatives nearby	325	4	30
Good boating	300	5	29
Good fishing	220	6	21
Level of development	209	8	20
Other	187	9	17
Close to town or village	115	10	11
Close to good highway	108	11	11
Abundant wildlife	80	12	8

7.(9) PHYSICAL DEFICIENCIES IN LAKE (N=102)

DEFICIENCY	PERCENT
Yes	46
No	45
Don't Know	11

*1 6.(8) – the first number corresponds to the question number in the 'Public Distribution' questionnaire. The number in brackets represents the corresponding question in the Cottage Owner/Landowner questionnaire.

*2 Refer to last page, for explanation of ranking procedure.

TYPE OF DEFICIENCY
(N=)

DEFICIENCY	RANK WEIGHT	RANK	CONSIDERED BY
Shoreline weed growth	124	1	28
Algae growth	92	2	21
Other	62	3	14
Weed growth in open areas	52	4	13
Fluctuating water levels	35	5	9

8.(10) SUMMER RECREATION ACTIVITIES
(N=)

ACTIVITY	RANK WEIGHT	RANK	CONSIDERED BY
General relaxation	768	1	64
Fishing	546	2	50
Swimming	542	3	47
Camping	491	4	41
Waterskiing	433	5	37
Picnicing	407	6	36
Power boating	195	7	17
Canoeing	129	8	12
Hiking	129	8	12
Nature study	89	9	8
Sailing	34	10	3
Other	11	11	1
Photography	10	12	1

9.* TYPE OF CAMPING SHELTER USED
(N=50)

TYPE	PERCENT
Tent	12
Van/Truck Camper	52
Travel or Tent Trailer	10
Motor Home	14
Other	12

10.(12) WINTER RECREATION ACTIVITIES
(N=102)

WINTER USE	PERCENT
Yes	55
No	45

TYPE OF ACTIVITY
(N=)

ACTIVITY	RANK WEIGHT	RANK	CONSIDERED BY
Ice fishing	315	1	41
General relaxation	159	2	22
X-country skiing	131	3	18
Snowmobiling	127	4	18
Snowshoeing	19	5	3
Other	14	6	2
Skating	12	7	2
Hunting	7	8	1

* Question 9 only found in 'Public Distribution' questionnaire.

11.(13) BOAT USE
(N = 104)

BOAT USE	PERCENT
Yes	75
No	25

NUMBER OWNED
(N = 89)

BOAT TYPE	NUMBER OWNED	0	1	2
Motorboat		29	53	7
Rowboat		75	14	
Canoe		70	19	
Sailboat		86	3	

MOTORBOAT HORSEPOWER
(N = 63)

HORSEPOWER	TOTAL NUMBER	PERCENT
0-9	10	16
10-20	9	14
21-30	2	3
31-40	7	11
41-50	3	5
51-60	2	3
61-70	6	10
71-80	3	5
81-90	5	8
91-100	2	3
over 100	14	22
	63	

SECTION C – YOUR VIEWS
(All Questionnaires)

12.(14) FISHING
(N = 102)

RATING	PERCENT
Excellent	0
Good	9
Fair	41
Poor	32
Don't know	18

13a.(15a) WATER QUALITY
(N = 103)

RATING	PERCENT
Excellent	14
Good	39
Fair	30
Poor	9
Don't know	9

13b.(15b) CHANGES IN WATER
(N = 102)

TYPE OF CHANGE	PERCENT
Getting better	1
About the same	43
Getting worse	22
Varies over time	12
Don't know	23

14a.(16a) LAKE SURFACE USE-AVERAGE WEEKEND
(N=101)

USE	PERCENT
Under used	2
Adequately used	62
Over used	24
Don't know	12

14b.(16b) PUBLIC BEACH USE-AVERAGE WEEKEND
(N=97)

USE	PERCENT
Under used	10
Adequately used	63
Over used	11
Don't know	16

15a.(17a) LAKE SURFACE USE-LONG HOLIDAY WEEKEND
(N=99)

USE	PERCENT
Under used	0
Adequately used	40
Over used	50
Don't know	10

15b.(17b) PUBLIC BEACH USE-LONG HOLIDAY WEEKEND
(N=97)

USE	PERCENT
Under used	3
Adequately used	53
Over used	29
Don't know	16

16.(18) NEED FOR MORE BEACHES AND DAY USE AREAS
(N=101)

NEED	PERCENT
Yes	55
No	32
Don't know	14

17.(19) SUFFICIENCY OF BOAT LAUNCH FACILITIES
(N=102)

SUFFICIENT	PERCENT
Yes	58
No	29
Don't know	13

18.(20) NEED FOR BOATING RESTRICTIONS
(N=100)

RESTRICTION	PERCENT
None	17
Speed	57
Boating type	20
Don't know	6

USE OF MAP TO INDICATE AREAS OF BOATING RESTRICTION
(N=26)

TYPE	SE BAY	NE BAY	WHOLE LAKE	WEST END
Speed Controls	31%	23%	4%	8%
Boating Type Controls	35%	23%	12%	15%

19.* ADEQUACY OF RECREATION FACILITIES
(N=70)

ADEQUATE	PERCENT
Yes	36
No	50
Don't know	14

TYPE OF DEFICIENCY
(N=29)

TYPE	PERCENT
Recreation Area & facilities too small	35
Lack of firewood	3
Insufficient tables and firepits	10
Better camping facilities	17
Poor beach area/swimming area	21
Poor boat launch	7
Lack of drinking water	3
Other	3

* Only the 'Public Distribution' questionnaire contained this question.

20.(21) EXISTENCE OF LAND USE CONFLICTS
(N = 98)

CONFLICTS	PERCENT
Yes	14
No	86

TYPES OF LAND USE CONFLICTS
(N = 12)

TYPE	PERCENT
Trespassing	17
Congestion at public beach	17
Campers vs. cottagers	17
Squatters	25
Shoreline Erosion	8
Loud Parties/Noise	8
Cattle watering in lake	8

21.(22) EXISTENCE OF LAKE USE CONFLICTS
(N = 93)

CONFLICTS	PERCENT
Yes	18
No	82

TYPES OF LAKE USE CONFLICTS
(N = 16)

TYPE	PERCENT
Speeding and careless power boats	13
Waterskiers vs. other lake users	13
Swimming area too close to boat launch	13
Fishermen vs. non-fishermen	6
Miscellaneous	56

22.(23) ADDITIONAL COTTAGE DEVELOPMENT
(N = 92)

DESIRABLE	PERCENT
Yes	34
No	66

23.(24) COMMERCIAL SERVICES AT LAKE
(N = 100)

DESIRABLE	PERCENT
Yes	28
No	72

REASONS WHY COMMERCIAL SERVICES NOT DESIRABLE
(N=51)

REASON	PERCENT
Would destroy natural beauty of lake	14
Lake is too small	14
Services available in Smoky Lake	49
Area would become too commercialized	8
Not economically viable	6
Other	10

24.* FEE FOR USE OF CAMPGROUND SITES
(N=71)

WOULD PAY	PERCENT
Yes	58
No	32
Don't know	10

25.(25) GENERAL COMMENTS
(N=63)

TYPE OF COMMENT	PERCENT
Need to regulate boat speeds, horsepower size & type of boating	9
Existence of lake user conflicts	14
Concern re: preservation/deterioration of lake environment	33
Need for supervision & patrolling	13
Expansion/improvement of services & facilities	20
Other	11

* Question 24 only found in 'Public Distribution' questionnaire.

SUMMARY OF WRITE-IN COMMENTS FOR QUESTION 25

CATEGORY A – Need to Regulate Boat Speeds, Horsepower Size and Type of Boat

- implement boat restriction on size of motors and speed
- speed boats are too powerful for the size of the lake
- too many boats with too much horsepower are being used
- restrict motor size on power boats to 9 horsepower
- motors over 15 horsepower should not be allowed
- opposed to speed boats
- allow canoes or paddle boats only, on the lake
- stop waterskiing and use of large horsepower motors along shore
- limit boat speed on west half of lake to 20 mph

CATEGORY B – Lake User Conflicts

- camping should not be allowed along shore at government campsite as it blocks access for the rest of the campers
- put up signs prohibiting R.V. motorcycles and off-road vehicles at west end campsite
- in the west end campsite people are parking right on the beach
- conflict between skiers, motorboats and people using beach area
- canoeing and fishing are almost impossible on weekends due to speed boats
- east end of lake is busy with boat traffic on weekends – it is dangerous for all user groups
- cottages are too close to beach
- boat launch is too close to swimming area
- beach area is too close to boat launch
- larger beach and away from boat launch
- prohibit use of motorbikes, trikes, etc. from public areas
- prohibit parking on fringe of beach
- boating should be prohibited in swimming area
- relocate boat launch further north so there is no conflict between boaters, skiers and swimmers
- boat launch is too close to swimming area

CATEGORY C – Preservation/Deterioration of Lake Environment

- like the lake the way it is – overdevelopment will ruin the lake
- lake should be retained in its present condition – minimize cabin development
- establish a 2 or 3 mile wildlife preservation area around lake
- by encouraging more campers more trees will be destroyed and more litter will be found
- something should be done about the beavers
- Lake Management Committee should formulate mandatory regulations for toilet wastes, sink wastes and solid wastes
- danger of overpopulation of lake should be controlled
- cattle coming into the lake is causing pollution
- beavers are a very big problem
- the lake is too small to be developed
- the lake is perfect the way it is – don't change a thing
- Hanmore Lake is too small for the use it gets
- the natural beauty of the lake remains a strong attraction
- keep Hanmore Lake as natural as possible
- any more development on the east end will deteriorate the quality of the lake
- the lake is overused, especially on long weekends
- Hanmore Lake should not be developed – leave in natural state
- suspend cottage development on County owned land
- no grazing within 1/2 mile of lake, reserve this area for recreation
- prohibit clearing of land within 1/4 mile of lake – leave as buffer
- establish environmental reserve strip around lake for public use
- establish a 500-600 foot buffer around lake
- cattle should be kept away from waters edge
- keep lake close to its natural state – allow only passive recreational activities
- Hanmore Lake is a good fishing lake and should be kept that way
- expansion would destroy lake environment
- improve existing recreational facilities without expansion
- no more cabins
- stop gas/oil leaks on the lake
- ban skidoo racing on lake in winter
- beaver control should be established
- lake is alright the way it is
- put size restriction on fish to be caught
- do not fix gravel road to campsite as this will attract more people

CATEGORY D – Supervision and Patrolling of Lake

- drinking parties should be outlawed
- drinking and loud music needs to be controlled
- liquor should not be allowed at the campsites
- noise is a problem
- the noise from bikes is a nuisance
- lake should be patrolled by RCMP a lot more
- supervision of camping is needed
- patrolled camping
- hire a manager to oversee lake management for the County
- controlled campgrounds are a must
- county should hire a person to patrol lakes year round
- lake should be patrolled to control bush parties and noise
- there should be an RCMP patrol on weekends
- campsites should be patrolled regularly by RCMP

CATEGORY E – Expansion/Improvement of Services and Facilities

- canoe or boat rentals, small general store
- are to west of west end campsite is used – either barricade off or incorporate into existing campsite
- more camping should be allowed in area west of west end campsite
- area west of west end campsite could be easily put to use
- better road access to cottages
- would appreciate an access road to cottage
- upgrade services to cottages
- a well for drinking water would be an asset for the public and seasonal residents
- pave Secondary Road 855
- develop picnic areas, hiking trails and more camp kitchens
- expand camping facilities
- provide firepits and playground area for kids
- boat rental, small store, gas sales
- need more day use picnic areas and more tenting areas
- establish a walking path around lake
- improve overnight camping facilities, i.e. plug-ins, running water
- government funding for garbage pick-up
- county campground needs improvement and upgrading
- need a good day use area
- would like an area for sports games
- drinking water is terrible at west end campsite

RANKING ANALYSIS PROCEDURE

The ranking method employed by this study is similar to the one used in other lake user surveys conducted by the Planning Branch of Alberta Municipal Affairs.

In four of the questions, respondents were given the opportunity to rank their answers or responses according to relative importance. For example, in the question which requested respondents to indicate the types of winter activities they engage in at Hanmore Lake, it was possible to determine the activities and the relative importance of that activity.

By way of example, the procedure followed in the ranking analysis of question 8(10) – the types of recreational activities engaged in during the summer, is outlined below.

Swimming was ranked as the most important reason by ten of the respondents, fifteen ranked it second, eleven ranked it third and eleven ranked it fourth. Since there were thirteen possible activities listed, the highest rank (rank No. 1) was assigned a weight of 13, the second highest rank (rank No. 2) was assigned a weight of 12, and so on. The total weight for swimming was therefore: $(13 \times 10) + (12 \times 15) + (11 \times 11) + (10 \times 11) = 542$.

This procedure is followed for each of the remaining twelve activities. Total weights for each activity are then arranged in descending order to obtain the overall ranking for that particular question.

MAPS NOT

FILMED

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